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ANNUAL REPORT

OF THE

ILLINOIS FARMERS' INSTITUTE

99523

WITH REPORTS OF

COUNTY FARMERS' INSTITUTES

FOR THE YEAR 1900.



LETTER OF TRANSMITTAL.

To His Excellency, JOHN R. TANNER, Governor of Illinois.

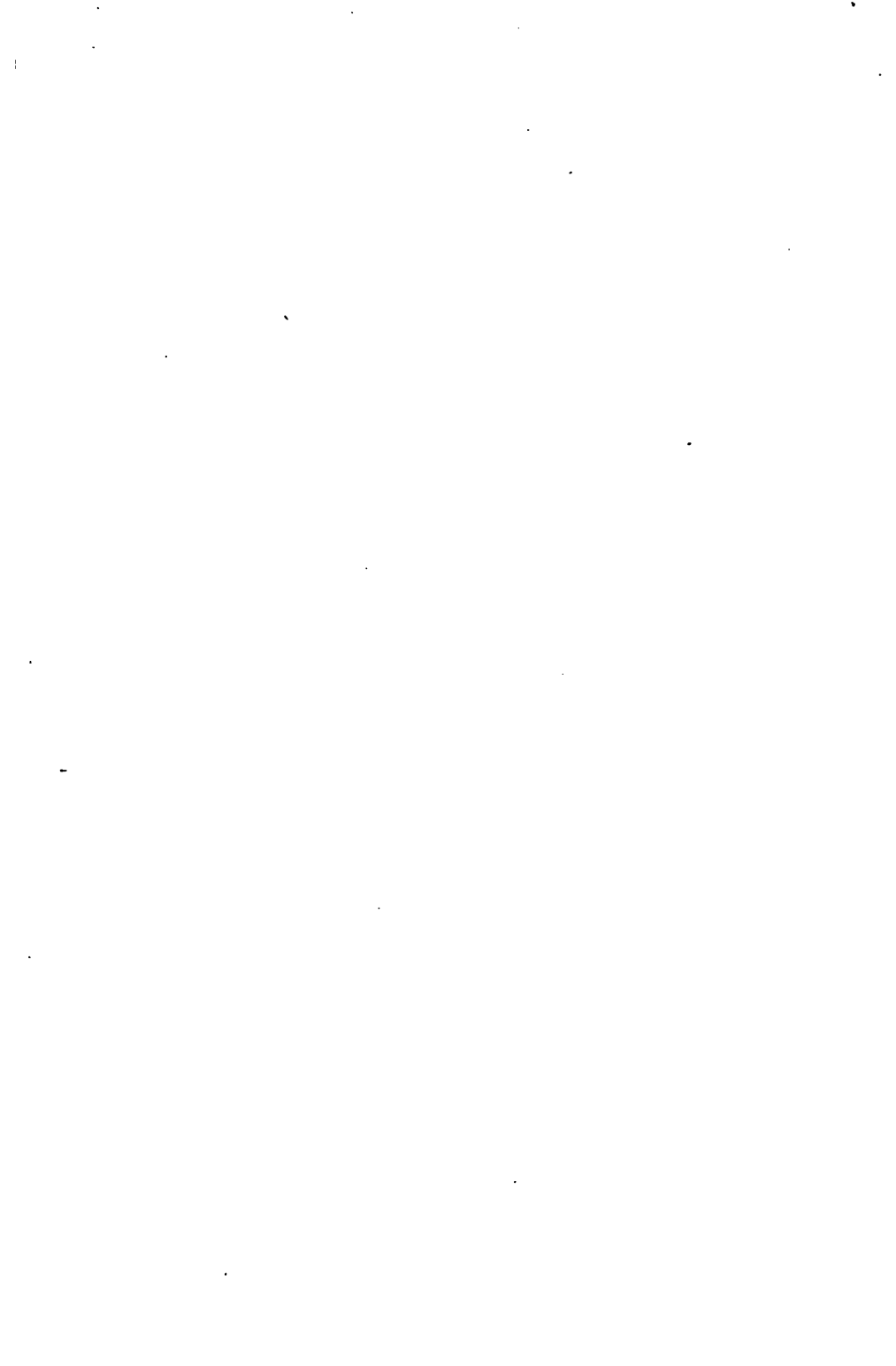
SIR:—I have the honor to transmit the report of the Illinois Farmers' Institute for 1899, and trust an inspection of its contents will satisfy you that the funds appropriated by the General Assembly for the advancement of useful education among the farmers, and for developing the agricultural resources of the State, have been wisely expended.

Respectfully submitted,

A. B. HOSTETTER,

Secretary.





Officers of the Illinois Farmers Institute.



G. A. WILLMARTH, President,
SENECA, ILL.



L. N. BEAL, Vice-President,
MT. VERNON, ILL.



A. B. HOSTETTER, Secretary,
SPRINGFIELD, ILL.



A. P. GROUT, Treasurer,
WINCHESTER, ILL.

ILLINOIS FARMERS' INSTITUTE.

CREATED BY ACT OF THE 39 GENERAL ASSEMBLY.

Officers March 1, 1899, to March 1, 1900.

President—G. A. Willmarth.....	Seneca
Vice-President—L. N. Beal.....	Mt. Vernon
Treasurer—A. P. Grout.....	Winchester
Secretary and Superintendent of Institutes—A. B. Hostetter.....	Springfield

BOARD OF DIRECTORS.

Ex Officio.

State Superintendent of Public Instruction—Alfred Bayliss.....	Springfield
President State Dairyman's Association—Geo. H. Gurler.....	DeKalb
Dean of College of Agriculture—Eugene Davenport.....	Urbana
President State Board of Agriculture—W. H. Fulkerson.....	Jerseyville
President State Horticultural Society—Henry M. Dunlap.....	Savoy

ELECTIVE BY CONGRESSIONAL DISTRICTS.

1st District—*Chas. H. Dolton.....	Dolton Station
2d .. W. R. Goodwin.....	1108-868 Dearborn st., Chicago
3d .. Sara Steenberg.....	145 LaSalle st., Chicago
4th .. John M. Clark.....	960 Warren ave., Chicago
5th .. James Frake.....	132 LaSalle st., Chicago
6th .. Wm. Stewart.....	623 Dearborn ave., Chicago
7th .. *C. J. Lindemann.....	145 LaSalle st., Chicago
8th .. C. D. Bartlett.....	Bartlett
9th .. Amos F. Moore.....	Polo
10th .. J. H. Coolidge.....	Galesburg
11th .. G. A. Willmarth.....	Seneca
12th .. F. I. Mann.....	Gilman
13th .. S. Noble King.....	Box 295, Bloomington
14th .. Oliver Wilson.....	Magnolia
15th .. G. W. Dean.....	Adams
16th .. A. P. Grout.....	Winchester
17th .. Charles F. Mills.....	Springfield
18th .. E. W. Burroughs.....	Edwardsville
19th .. D. H. Shank.....	Paris
20th .. L. N. Beal.....	Mt. Vernon
21st .. W. R. Kimzey.....	Tamara
22d .. H. G. Easterly.....	Carbondale

STANDING COMMITTEES.

Executive Committees.

G. A. Willmarth.	S. Noble King.	W. R. Kimzey.
*C. J. Lindemann.	D. H. Shank.	L. N. Beal.

State Institute Meeting Committees.

Oliver Wilson.	Chas. F. Mills.	A. P. Grout.
L. N. Beal.	C. D. Bartlett.	G. A. Willmarth.

Committee to Select Speakers for County Institutes.

J. H. Coolidge.	Alfred Bayliss.	Amos F. Moore.
G. W. Dean.	W. R. Kimzey.	G. A. Willmarth.

Legislative Committee.

A. P. Grout.	H. M. Dunlap.	W. H. Fulkerson.
Geo. H. Gurler.	J. H. Coolidge.	G. A. Willmarth.

Organizing Township Institutes.

Chas. F. Mills.	Amos F. Moore.	F. I. Mann.
C. J. Lindemann.	W. R. Goodwin.	G. A. Willmarth.

Special Features for Improving County Institutes.

H. M. Dunlap.	Chas. H. Dolton.	E. W. Burroughs.
C. D. Bartlett.	W. H. Fulkerson.	G. A. Willmarth.

Committee on Domestic Science Association.

Sara Steenberg.	S. Noble King.	Eugene Davenport.
Wm. Stewart.	E. W. Burroughs.	G. A. Willmarth.

Agricultural Education and Library Committees.

Eugene Davenport.	James Frake.	H. G. Easterly.
D. H. Shank.	F. I. Mann.	G. A. Willmarth.

* Deceased.

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6th " Wm. Stewart	623 Dearborn ave., Chicago
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Walter R. Kimzey,	S. Noble King,
D. H. Shank.	

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Oliver Wilson,	Eugene Davenport,
Geo. H. Gurler,	E. W. Burroughs,
G. A. Willmarth.	

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Henry M. Dunlap,	Geo. H. Gurler,
G. A. Willmarth.	

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G. W. Dean,	Henry M. Dunlap,
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Organizing Township Institutes.

Chas. F. Mills,	F. I. Mann,
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W. H. Fulkerson,	Wm. Stewart,
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Oliver Wilson,	H. D. Hughes,
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Alfred Bayliss,	Eugene Davenport,
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'AN ACT CREATING THE ILLINOIS FARMERS' INSTITUTE.

SECTION 1. *Be it enacted by the People of the State of Illinois, represented in the General Assembly,* That to assist and encourage useful education among the farmers, and for developing the agricultural resources of the State, that an organization under the name and style of "Illinois Farmers' Institute" is hereby created, and declared a public corporation of the State.

§ 2. It shall consist of three delegates from each county of the State, elected annually at the Farmers' Institutes for said county by the members thereof.

§ 3. The affairs of the Illinois Farmers' Institute shall be managed by a board of directors, consisting of

1. State Superintendent of Public Instruction.
2. Professor of Agriculture of the University of Illinois.
3. President of State Board of Agriculture.
4. President of the State Horticultural Society.

5. President of the State Dairymen's Association, and one member from each congressional district of the State, to be selected by the delegates from the district present at the annual meeting of this organization: *Provided*, that the members first selected from the congressional districts of even number shall serve for one year, and the members first selected from the congressional districts of odd numbers shall serve for two years, and that the members selected thereafter to fill expired terms of office shall serve for the period of two years.

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mainder for the use of the State and General Assembly. It shall make no appropriation without funds in hand to meet same, and the State of Illinois shall in no event be held liable or responsible for debt, obligation or contract made by the Illinois Farmers' Institute or its board of directors.

§ 5. There shall be held annually, under the direction of the board of directors, between October 1 and March 1 following of each year, a public meeting of the delegates from County Farmers' Institutes and of farmers of this State, at such time and place as may be determined by the board of directors, of not less than three (3) days' duration, which meeting shall be held for the purpose of developing the greater interest in the cultivation of crops, in the care and breeding of domestic animals, in dairy husbandry, in horticulture, in farm drainage, in improved highway, and general farm management, through and by means of liberal discussions of these and kindred subjects, and any citizen may take part in these meetings, but only duly elected and accredited delegates from County Farmers' Institutes shall be permitted to vote in the election of the board of directors.

§ 6. The members of each new board of directors shall enter upon their duties the next Tuesday after their election, and hold their offices for one or two years, as provided in section 3, or until their successors are elected and enter upon their duties. It shall have power to fill vacancies in the board. It shall organize by the election of a president, vice-president, secretary, treasurer and state superintendent of farmers' institutes, and such other officers or agents as may be deemed proper for organizing and conducting the work of the organization, who shall hold their offices for one (1) year, unless removed sooner by the board, and shall perform such duties as may be required of them by rules of the board. The secretary, treasurer and superintendent may be other than members of the board.

§ 7. Rooms in the capitol building shall be assigned to the officers of this organization by the proper authority, which shall then be under the control of the board of directors.

§ 8. The board of directors may make and enforce such rules and by-laws, not in conflict with the laws of this State, as will render its work most useful and efficient.

§ 9. For the purpose mentioned in the preceding sections, said board of directors may use such sum as it may deem proper and necessary, not exceeding the amount appropriated therefor by the General Assembly from the general fund for that purpose: *Provided, further, that the*

1. State Superintendent of Public Instruction,
2. Professor of Agriculture of the University of Illinois,
3. President of the State Board of Agriculture,
4. President of the State Horticultural Society,
5. President of the State Dairymen's Association,

And the present congressional representative of the Illinois Farmers' Institute Association shall constitute the first board of directors of this organization, who shall have charge of the affairs of the same, until their successors have been duly elected, and enter upon their duties as provided in this act.

AN ACT making appropriations for the Illinois Farmers' Institute and County Farmers' Institutes.

WHEREAS, To assist and encourage useful education among farmers and for developing the agricultural resources of the State, the Thirty-ninth General Assembly created an organization under the name and style of the Illinois Farmer's Institute, and entrusted to it the development of greater interest in the cultivation of crops, in the breeding and care of domestic animals, in dairy husbandry, in horticulture, in farm drainage, in improved highways and general farm management, through and by means of liberal discussions of these and kindred subjects; and for improving the condition of the farmer by affording a better knowledge of successful agriculture. Therefore, to sustain the same,

Be it enacted by the People of the State of Illinois, represented in the General Assembly: That there be, and is hereby, appropriated to the Illinois Farmers' Institute the following sums, to-wit:

SECTION 1. For expressage, postage, office expenses, furniture, etc., the sum of one thousand three hundred dollars (\$1,300) per annum for the years 1899 and 1900.

§ 2. For the expense of collecting matter and preparing manuscript, editing the annual report and bulletins, stenographer, clerk hire, etc., the sum of one thousand seven hundred dollars (\$1,700) per annum for the years 1899 and 1900.

§ 3. For the actual expense of district directors, and of able and practical speakers to be furnished by the Illinois Farmers' Institute, to the County Farmers' Institutes, for the purpose of assisting in making their meetings of general interest and of the greatest practical benefit; for the expense of organizing county institutes, for the expense of printing program, advertising of speakers and exhibit at the State institute, the sum of five thousand dollars (\$5,000) per annum for the years 1899 and 1900. *Provided*, that county institutes or their representatives shall be permitted to select their own speakers and to have such topics for consideration as shall be of interest to their respective localities.

§ 4. For the use of each County Farmers' Institute, the sum of seventy-five dollars (\$75) per annum for the years 1899 and 1900, to be paid the treasurer of each County Farmers' Institute, when such institute shall file with the secretary of the Illinois Farmers' Institute a sworn statement which shall show that said County Farmers' Institute has held one or more duly advertised public sessions annually of not less than two days each, at some easily accessible location, which shall include an itemized exhibit of the expenses of said meet-

ing, with receipted vouchers therefor, a copy of its printed program, and the printed proceedings, showing title and author of the papers read and by whom discussed, place or places of meeting, with daily average attendance, and such other information as may be called for by the Illinois Farmers' Institute and necessary to successfully assist this work.

§ 5. No officer or officers of any County Farmers' Institute shall be entitled to or receive any moneyed compensation whatever for any services rendered the same.

§ 6. That, on the order of the president, countersigned by the secretary of the Illinois Farmers' Institute, and approved by the Governor, the Auditor of Public Accounts shall draw his warrant on the Treasurer of the State of Illinois in favor of the treasurer of the Illinois Farmers' Institute for the sums herein appropriated: *Provided*, that each warrant on account of a County Farmers' Institute shall show the county institute for whose benefit the same is drawn: *Provided further*, that the program and printed proceedings of the County Farmers' Institute, for which each warrant is drawn, shall show that the following topics have been presented and discussed, viz: grain farming, stock feeding and breeding, dairy husbandry, orchard and small fruit culture, farmers' garden, domestic science, and any other subjects pertaining to farm life: *Provided further*, that if the necessary expense of a County Farmers' Institute shall not equal the sum of seventy-five dollars (\$75) as aforesaid, then said warrant shall only be drawn for the sum expended.

§ 7. It shall be the duty of the treasurer of the Illinois Farmers' Institute to pay over to the treasurer of each County Farmers' Institute the said sum of seventy-five dollars (\$75), or so much thereof as may be received for its use and benefit as aforesaid, and make annual report to the Governor as provided by law.

APPROVED April 11, 1899.

FIFTH ANNUAL MEETING

OF THE

Illinois Farmers' Institute

HELD IN THE

GRAND OPERA HOUSE
MT. VERNON, ILL.

February 20, 21, 22, 1900.



ANNOUNCEMENT.

The Board of Directors of the Illinois Farmers' Institute extend a cordial invitation to the farmers, horticulturalists, dairymen, live stock breeders and gardeners of Illinois, also to the members of the Domestic Science Associations and to all others who are interested in the development of the resources of the State and the up-building of our homes, to attend the Fifth Annual State Meeting to be held at Mt. Vernon February 20, 21 and 22, 1900.

The program covers a wide range of subjects which will be presented and discussed by those of recognized ability and experience in their respective lines of work.

There will be an opportunity for the general discussion of all the topics on the program.

The introduction of other subjects of general interest to agriculture may be made through the question box. The questions to be submitted in writing and drawn from the box by the President of the Institute.

The term of office of the directors of the odd-numbered congressional districts expires on the 1st of March, 1900. The delegates in attendance at the annual meeting at Mt. Vernon from those districts will select directors for the ensuing two years. Under the law creating the Illinois Farmers' Institute "only duly elected and accredited delegates from County Farmers' Institutes shall be permitted to vote in the election of the board of directors." The convention of delegates for the election of directors will be held Wednesday, February 21, 1900, at 4:30 p. m.

All the sessions of the State meetings will be free to anyone who may wish to attend them.

Mount Vernon, where the annual meeting of the Illinois Farmers' Institute will be held this year, is a picturesque city of 7,000 inhabitants, and is located in the center of the great fruit producing region of southern Illinois. It is the county seat of Jefferson county and is located about 75 miles east of St. Louis, about 85 miles west of Evansville, 100 miles north of Cairo and 113 miles southeast of Springfield. It is easy of access, either by direct line or close connection, with all points in the State. The Air Line, L. E. & St. L., and the Louisville crossing from east to west, and the Chicago & Eastern Illinois running from Chicago south to the Ohio river, all pass through Mt. Vernon while the northeastern terminus of the

Wabash, Chester & Western is at this point. Good connections are also made with the Illinois Central, the Jacksonville, the Mobile & Ohio, the Chicago & Alton, the Big Four, Burlington lines and other chief lines of the State, via East St. Louis.

Mt. Vernon has many attractions to offer the visitor. Here is located the magnificent appellate court building with its well-kept grounds, its extensive library, second to none in the State. Here are works of the Mt. Vernon Car Manufacturing Company, covering ten acres of ground and affording steady work for hundreds of workmen. To the east of the car works is the plant of Chanute's Tie Preserving Company, which by a patent process is converting daily into durable railroad ties, thousands of feet of native woods heretofore considered valueless. Near by are the shafts of the Mt. Vernon Coal Company, hoisting daily hundreds of tons of coal of the finest quality from a 6-foot vein situated 850 feet below the surface. The ax and pick handle factory of Hartwell Bros. has just been put in operation, giving employment to hundreds of men and opening a sale for the vast quantities of hickory wood with which the county is so abundantly supplied. Mt. Vernon boasts of three of the prettiest church edifices in the State and supports eleven churches. The people are proud of their superb school buildings, four in number including the high school, while the Grand Opera house, in which the Institute will be held, is surpassed by but few buildings in this part of the State. The city has broad, well-kept streets and miles of substantial grani-toid and brick pavements enabling the visitor to visit afoot almost any section of the city without discomfort. The hotels and boarding houses are of the first class and amply able to accommodate all visitors. The people of Mt. Vernon and vicinity are hospitable and friendly, and will spare no pains for the comfort and enjoyment of their guests. You will enjoy a visit to this queenly little city and an earnest invitation is extended you by her citizens to attend the meeting of the Institute there.

ILLINOIS FARMERS' INSTITUTE.

CONVENTION OF DELEGATES.

GRAND OPERA HOUSE, MT. VERNON, ILL.

TUESDAY, FEBRUARY 20, 1900.

MORNING SESSION—9 O'CLOCK.

G. A. WILMARTH, *Presiding.*

President Illinois Farmers' Institute.

Music—"America"—By the Audience.

Prayer—Rev. H. B. Douglas, Mt. Vernon.

Address of Welcome—Hon. G. F. M. Ward, Mayor of Mt. Vernon.

Response—Col. Charles F. Mills, Springfield.

Music.

Report of State Superintendent of Institutes—A. B. Hostetter, Springfield.

Reports from the several County Farmers' Institutes by delegates in attendance.

In order that all the delegates in attendance may have time to report, the delegates are requested to submit their reports in writing, giving, in a concise form, the condition of the Institute work in their respective counties, and an outline of the features that have proved most beneficial.

AFTERNOON SESSION—1:30 P. M.

MRS. NELLIE S. KEDZIE, *Presiding.*

Professor Household Economics, Bradley Polytechnic Institute, Peoria, Illinois.

DOMESTIC SCIENCE SESSION—CONDUCTED BY ILLINOIS ASSOCIATION DOMESTIC SCIENCE.

Music.

Report of Work of the Association—Mrs. Emma J. Davenport, Secretary, Urbana.

How to Teach Our Boys and Girls Thrift and Obedience—Mrs. Wm. K. McLaughlin, Jacksonville.

Sanitation for Country Homes—Arthur N. Talbot, Professor Municipal and Sanitary Engineering, University of Illinois, Urbana.

Woman's Share in Economics—Miss Perla G. Bowman, Associate Professor of Domestic Economy and Director of the Department, Ohio State University, Columbus, Ohio.

Circulating Libraries—Mrs. S. Noble King, Bloomington.

EVENING SESSION—7:30 O'CLOCK.

PRESIDENT G. A. WILLMARTH, *Presiding.*

EDUCATIONAL SESSION.

Music.

Address—"Agriculture and the Public School System"—Eugene Davenport, Dean College of Agriculture, University of Illinois.

Music.

Address—"Some By-Products in Education"—Alfred Bayliss, State Superintendent of Public Instruction.

Music.

WEDNESDAY, FEBRUARY 21, 1900.

MORNING SESSION—9 O'CLOCK.

G. A. WILLMARTH, *Presiding.*

LIVE STOCK AND DAIRY SESSION.

Prayer—Rev. G. F. Hartman, Mt. Vernon.

GEO. H. GURLER, President Illinois Dairymen's Association, Chairman.

Introductory Remarks by the Chairman—Geo. H. Gurler, DeKalb.

Poultry Raising—Mrs. Rose Carr, Lis.

Ensilage: How to Plant, Cultivate and Put Up—H. B. Gurler, DeKalb.

Address—Type and Quality in Farm Stock—A. P. Grout, President Illinois Live Stock Breeder's Association.

Address on Dairy Lines—J. H. Monrad, Assistant Illinois Food Commissioner, Winnetka.

Each topic will be open for discussion.

AFTERNOON SESSION—1:30 O'CLOCK.

Music.

Address—Farmers' Organizations—Aaron Jones, Master of the National Grange, South Bend, Ind.

HORTICULTURAL SESSION.

HENRY M. DUNLAP, President State Horticultural Society, Chairman.

Introductory Remarks by the Chairman—Henry M. Dunlap, Savoy, President State Horticultural Society.

Cultivation of Orchards—J. C. Blair, Professor of Horticulture in College of Agriculture, Urbana.

Successful Spraying of Fruits—H. A. Aldrich, Vice-President State Horticultural Society, Neoga.

Shipping Fruits—J. W. Stanton, President Horticultural Society of Southern Illinois, Richview.

Each topic will be open for discussion.

AFTERNOON SESSION—4:30 O'CLOCK.

The delegates from the several Congressional districts will meet for conference at 4:30 o'clock p. m., Wednesday, February 21, 1900, to select directors for the Illinois Farmers' Institute for the odd numbered Congressional districts, as provided in the act of the General Assembly creating the Illinois Farmers' Institute.

EVENING SESSION—7:30 O'CLOCK.

G. A. WILMARTH, *Presiding.*

HOME MAKING SESSION.

MRS. L. G. CHAPMAN, Freedom, Ill., Chairman.

Music.

Introductory Remarks by the Chairman—Mrs. L. G. Chapman.

Music.

Woman's Work in Improving the Home—Mrs. Henry M. Dunlap, Savoy.

The Influence of the Country Home—Mrs. M. L. Copeland, Marion.

The Farmer's Home—Henry Wallace, Des Moines, Iowa.

THURSDAY, FEBRUARY 22, 1900.

MORNING SESSION—9 O'CLOCK.

G. A. WILLMARTH, *Presiding.*

Music.

Prayer—Rev. W. C. McCall, Mt. Vernon.

FARM CROP SESSION.

COL. W. H. FULKERSON, President Illinois State Board of Agriculture, Jerseyville, Chairman.

Introductory Remarks by the Chairman—W. H. Fulkerson.

The Value of Clover—Henry Wallace, Editor Wallace Farmer.

The Value of Farm Crops as Affected by Transportation Facilities—M. J. Carpenter, President Chicago & Eastern Illinois R. R. Co., Chicago.

Each topic will be open for discussion.

AFTERNOON SESSION—1:30 O'CLOCK.

Music.

Address, Advanced Agriculture—J. H. Brigham, Assistant Secretary of Agriculture, Washington, D. C.

The Mission of Farmers' Institutes—Charles Bogardus, State Senator, Paxton.

Discussion and Opening of the Question Box.

Miscellaneous Business.

—2 F.

ILLINOIS ASSOCIATION OF DOMESTIC SCIENCE.



MRS. JOSEPH CARTER, Champaign, President.

The Illinois Farmers' Institute has recently established free circulating libraries. Each library contains about fifty volumes, and five of these are upon domestic science subjects. Any community or club willing to pay the express charges from Springfield and return may obtain one of these libraries for six months upon application to A. B. Hostetter, Springfield, Illinois.

Besides these libraries there are twenty-five books upon domestic science subjects chosen more particularly with reference to study in the clubs. These may be obtained, one or more at a time, by any Domestic Science Club upon application to Mr. Hostetter.

The following is a list of these books:

One copy Chemistry of Cookery, Matthieu Williams; 2 copies Chemistry of Cooking and Cleaning, Mrs. Ellen H. Richards; 1 copy Food Adulteration, Mrs. Ellen H. Richards; 2 copies Home Sanitation, Mrs. Ellen H. Richards; 1 copy How to Drain a House, Geo. E. Waring, Jr.; 1 copy Primer of Hygiene, Ernest S. Reynolds; 2 copies Food and Its Functions, James Knight; 2 copies Food in Health and Disease, I. Burney Yeo; 2 copies Food and Feeding, Sir Henry Thompson; 2 copies Dust and Its Dangers, T. Mitchell Prudden; 2 copies The Story of Bacteria, T. Mitchell Prudden; 2 copies Drinking Water and Ice Supplies, T. Mitchell Prudden; 2 copies Cookery in the Public Schools, Sallie Joy White; 1 copy Notes on Nursing, Florence Nightingale; 2 copies Good Cooking, Mrs. S. T. Rorer.

This Association is affiliated with the Illinois Farmers' Institute. It was organized by the Institute in 1896 to arouse wider interest in the science and art of housekeeping, and while not at all limited to the farm homes, it is yet designed especially for the assistance of farmers' wives and to stimulate mutual helpfulness in their methods of housekeeping. The system of organization is precisely the same as for institutes, that is to say, one association for each county working in conjunction with the County Institute, and conducting at least one session of each annual meeting. Any number of local organizations may be formed and conducted upon any plan that is most convenient and helpful. The essential feature is the county organization working in connection with the County Institute.

The State Association holds one meeting a year in connection with the State Institute and the delegates to this meeting are the only members of the State Association, except the officers. There are no dues or membership fees, except as the local organizations impose them upon themselves.

Each organization of Domestic Science is entitled to two delegates and it is hoped that there will be a full representation. All clubs interested in the subject of domestic science are invited to send delegates and all persons are most cordially invited to attend this meeting.



MRS. EUGENE DAVENPORT, Secretary, Urbana.

ANNUAL MEETING ILLINOIS ASSOCIATION DOMESTIC SCIENCE

HELD IN THE

CUMBERLAND PRESBYTERIAN CHURCH, MT. VERNON, ILL.

WEDNESDAY, FEBRUARY 21, 1900.

AT 9:30 A. M.

Music.

Prayer—Rev. H. Clay Yates, Mt. Vernon.

Address of Welcome—Mrs. L. N. Beal, Mt. Vernon.

Response—Mrs. Joseph Carter, President, Champaign.

Report of Secretary—Mrs. Emma J. Davenport, Urbana.

Reports from Delegates from County Associations.

General Discussion of the Work of the County Associations—Led by Mrs. E. M. Coffman, Vice President, Mechanicsburg.

Miscellaneous Business.

Election of Officers.

AFTERNOON SESSION—1:30 O'CLOCK.

Music.

Domestic Science in the Rural Schools—Mrs. S. Noble King, Bloomington.

A Kitchen Club—Mrs. H. M. Dunlap, Savoy.

Township Organization—Mrs. J. R. Chalicomb, Hillsboro.

Convenient Farm Houses—Mrs. I. S. Raymond, Sidney.

The Farmer's Wife and Her Table—Mrs. G. W. Shippy, McConnell.

PROCEEDINGS OF THE FIFTH ANNUAL MEETING OF THE ILLINOIS FARMERS' INSTITUTE.

HELD IN THE GRAND OPERA HOUSE, MT. VERNON, ILL., FEBRUARY
20, 21 AND 22, 1900.

Promptly at the appointed time Hon. G. A. Willmarth, president of the Illinois Farmers' Institute, took the chair and called the meeting to order, and requested the audience to rise while the orchestra rendered "The Ttar Spangled Banner." They remained standing while the Rev. H. B. Douglas, of Mt. Vernorn, offered the following prayer:

"Our Heavenly Father, we look up to Thee this morning, recognizing Thee as the God and Father of all mankind; as the Creator and Preserver of the world, and of all humankind; we thank Thee this morning that we are permitted to assemble together in order that we may worship Thee, and in order that we may transact business which relates to the material interests of this world; we thank Thee, oh Lord, that Thou has constituted us such beings that we can mingle as friends and brethren in one common enterprise. We come this morning, our Father, and we pray Thee that Thy blessing may descend and rest upon this great State of Illinois; we pray here, oh Lord, that as we look back upon its history we see what our forefathers did in planning the corner stone and emblazing the track for civilization, and the evangelization, and for the improvement of the material interests of this country. We thank Thee for their history; we thank Thee for their endurance; we thank Thee for the good foundations which they laid, and we thank Thee, our Heavenly Father, for the goodly heritage with which they have provided us as their descendants. Now we come to this Farmers' Institute, and we pray that those who come to our houses, strangers within our gates, may have the blessing of God resting upon them in the transaction of the duties devolving upon them as the representatives of this great interest of this great State of Illinois, the great agricultural interests of this great empire, as it were. We pray, oh Lord, for your blessing, that Thou bless these strangers within our gates, that have come to this city to discharge their duties to their native land; we pray a blessing upon the homes which they have left behind; we pray Thee to bless those whom they have left in the homes, and grant, our Father, that peace may rest upon them, and may there be great prosperity unto those who labor, who toil, not only with the mind but with the hand, who are looking for the better interests of this great enterprise of our country. Now we ask a blessing upon the servants of the day; we pray for Thy blessing upon everything that may be said, or that may be done; bless Thou our servants, the members of this institution; we ask that Thou wilt help him and enable him to so preside that there may be great blessings come to the work of the institution. May those who bring instruction bring such instruction as to help not only those engaged in farming but those of us who may not, for the time being, be engaged in this work, the efforts of all classes of men, the laboring man, and all the interests of every enterprise, whether commercial, manufacturing or farming, or whatever the interest may be, we pray Thy blessing

upon the Institute this morning, in all of its deliberations; and when our work is done, and when the Institute shall have been closed, wilt Thou grant blessings to those who shall return to their homes. We ask in the name of Christ, oh Lord. Amen."

President Willmarth then stated that it had been thought best to change the order of business, and instead of having the address of welcome at this time, Mr. A. B. Hostetter would read his report as State Superintendent of Institutes.

Report of A. B. Hostetter, Superintendent of Institutes:

LADIES AND GENTLEMEN, FRIENDS AND CO-WORKERS IN ONE OF THE GREATEST EDUCATIONAL MOVEMENTS OF OUR STATE:—It is a pleasure to meet face to face so many of the Institute officers of the several counties, with whom I have corresponded during the past year. I am glad of an opportunity to thank you for the courteous and responsive manner in which you have received and acted upon the many communications and requests sent to you from the State Institute office.

It will be gratifying to you to know, as it is to me to report, that through the efficient service rendered by the directors of the several districts and the officers of the several County Institutes, the high position attained by the Institutes of the State in the past has been more than sustained during the present year. The work so well begun has been rounded out and extended, and in addition new fields have been opened up and cultivated and fresh seed sown for future harvests.

The supreme achievement of the previous administration of the Illinois Farmers' Institute, which should be remembered by the farmers of the State with thoughts of high commendation, was the conspicuous part taken by it in advocating and promoting the growth and development of the College of Agriculture of the University of Illinois. It was through the efforts of the Illinois Farmers' Institute, endorsed and encouraged by the able support of the agricultural press, that a bill was passed by the 41st General Assembly, providing for an agricultural college building and an adequate fund for instruction therein. The great work was not completed until after the annual meeting of the State Institute at Princeton, hence mention of it should be made in this report.

An appropriation of \$150,000 was secured for an agricultural college building for the University of Illinois and one-half of the funds derived from congressional appropriations for industrial education were assigned to the College of Agriculture for instruction in its several departments. The members of the legislative committee, consisting of Directors Grout, Dunlap, Dean, Dolton, King, Mills and Moore, are entitled to the hearty thanks of this body for their untiring, vigilant and successful efforts in securing the legislation desired by the Institute.

Since last March 99 counties have held successful Institutes of two or more days each. Eight counties have held two Institutes of about equal merit and duration. One Institute was held in May, one in June, nineteen in October, twenty in November, seventeen in December, twenty-nine in January and twenty in February, a total of 107 Institute meetings. A round-up or Congressional meeting was held in districts outside of Chicago, and an excellent Institute in the Third Congressional district, under the management of Director Mrs. Sara Steenberg.

As we are to have a report from the director of each district and from the delegates from the several County Institutes, we will leave the mention of details and special features to them.

PROGRAMS.

A large number of counties availed themselves of the offer of the State Institute to print the programs of the County Institutes. This plan, I believe, has met with the approval of all parties. It has given the directors and superintendent of Institutes an opportunity to compare a great many of the programs carried out this season. A very noticeable feature of these programs

has been their uniform excellence. They have covered a wide range of subjects and have called upon the best talent in the State to present them. There has been a marked increase in the number of topics requiring technical knowledge and scientific research. Therefore there has been a great demand upon the College of Agriculture for help from its able corps of professors.

The Institutes are under great obligations to the University of Illinois for the work done by its professors at the Institute meetings this season. We hope that with the increase in the appropriations for instruction in the College of Agriculture, that still more help can be secured from that source for the future work of the Institutes.

The question of how many topics should be considered at an Institute session, and how much time should be allowed for general discussion of same, is one that can only be determined by experience. The tendency, it seems to me, has been to overload the programs with topics and speakers and not to allow sufficient time for the discussion, or rather questions, which have a tendency to apply the lessons of the topic to the needs of those present and to the local conditions of the community where the meeting is held. I am aware that the arrangement of the program and the selection of the speakers is the most difficult problem that the County Institute officers have to solve. Frequently the persons who are the best qualified to present a subject will decline to take part on the program; the temptation is therefore strong to place them on the list of speakers without first obtaining their consent and promise to be present at the appointed time. As a rule I think this is unwise, especially in this case in regard to those recommended as State speakers; in no case should their names be put upon programs without previously arranging with them for the meeting. Considerable disappointment has been occasioned this season, both to the speakers and the Institutes, by placing speakers on the program without previous arrangement for their attendance.

A large number of institutes have had exhibits in connection with the regular programs; these exhibits have varied in extent from a few samples of grains and vegetables without being entered for premiums, to a miniature fair including exhibits of grains, vegetables, fruits, pantry stores, dairy products, needle work, baby shows, street fairs, etc., for which frequently very liberal prizes are offered. Whether or not these exhibits are an advantage to and serve to carry out the objects for which the institutes were established, is an open question with arguments on both sides. It all depends of course upon the manner in which the exhibits are conducted. A free interchange of ideas and experiences along this line at this meeting will be of great help to the institute officers of the State.

DOMESTIC SCIENCE ASSOCIATIONS.

The domestic science associations of the State have been increasing in number and strength. The sessions of institutes under their management or made up of topics and speakers of their selection, have invariably met with popular favor. These associations of the ladies have proved of great advantage to the institute meetings in increasing the daily attendance and in furnishing the programs with profitable topics presented by entertaining, enthusiastic accomplished speakers.

The home is the source of all social, intellectual and moral development as truly as agriculture is the foundation of all business prosperity and national advancement. Good housekeeping means good homes, good morals, good manners, good characters and good citizens. The perpetuity of the farm home and the education of the boys who are to become the farmers of the future, and the education of the girls who are to become the mothers, home makers and housekeepers are questions of the most vital importance. Whether the farmer maintains his present position and advances in the scale of citizenship, or whether he retrogrades into a condition of peasantry and serfdom will depend almost entirely upon the condition of the farm home. The work of the domestic science associations, therefore, is second to none. Their work and mission is, however, only in a formative state; they need help and sympathy and moral and material support.

Some of the county institutes have passed resolutions asking the next Legislature to provide for a department of domestic science in the University of Illinois. This movement should have the sanction of this representative body. The State Institute has appropriated part of the institute fund to the use of the Illinois Association Domestic Science. It is affiliated with us in the institute work of the State. We welcome the ladies to the institute platform and wish them God speed in their work.

SCHOLARSHIPS IN THE COLLEGE OF AGRICULTURE.

The present Board of Institute Directors has continued the line of work of developing the College of Agriculture by securing from the trustees of the University of Illinois a free scholarship in the College of Agriculture for one person from each county in the State and one for each of the congressional districts of Chicago, a total of one hundred and eight scholarships.

The number of applications for these scholarships, considering the short time in which the institute had to advertise the same, has been beyond our expectations. Ninety-three appointments have been made from the applications received, the appointment in each case being recommended by the director of the district in which the applicant lives. Seventy-two of the appointees have been or are now pursuing their studies in the College of Agriculture at the University of Illinois. These scholarships are good for two years' instruction in any department of the College of Agriculture that the student is qualified to enter.

The following is the roll of honor of those who have received scholarships from the Illinois Farmer's Institute and who are now pursuing an agricultural course at the University of Illinois:

Name.	Postoffice Address.	County.	County Represented by Scholarship.
Ed. Wolf.....	Farina	Fayette	4th Con. District.....
Henry Scudder.....	1673 Berry av., Chicago.	Cook	5th Con. District.....
Steven Hopps.....	Lamolle	Bureau	6th Con. District.....
Geo. T. Huson.....	Fort Hill	Lake	7th Con. District.....
W. L. Howard.....	Sheffield	Bureau	DuPage.....
Ferd. Basting, Jr.....	Yuton	McLean	Kane.....
C. H. Fellingham.....	Verona	Grundy	Kendall.....
J. P. Finch.....	Verona	Grundy	McHenry.....
S. Augustus Bennet.....	Belvidere	Boone	Boone.....
L. Carl Hendrick.....	Milledgeville.	Carroll	Carroll.....
Clifton Hopps.....	Lamolle	Bureau	Lee.....
H. B. Stocks.....	Elroy	Stephenson	Stephenson.....
E. Temple.....	Elida	Winnebago	Winnebago.....
J. Orton Finley.....	Onelda	Knox	Henry.....
D. Scott Marks.....	Abingdon	Knox	Knox.....
W. A. Sanquist.....	Victoria	Knox	Mercer.....
W. G. Eckhard.....	Buffalo Prairie.	Rock Island	Rock Island.....
C. B. Riordan.....	Garden Plain.	Whiteside	Whiteside.....
Arthur Bryant.....	Princeton	Bureau	Bureau.....
Edward Geneske.....	Streator	LaSalle	LaSalle.....
H. B. Marriott.....	Urbana	Champaign	Iroquois.....
Frank L. Valli.....	Manteno	Kankakee	Kankakee.....
Chas. E. Smith.....	Rossville	Vermilion	Vermilion.....
Edward Genter.....	Frankford Station.	Will	Will.....
F. C. Stearns.....	Mahomet	Champaign	Champaign.....
Carrie B. Howell.....	Urbana	Champaign	Douglas.....
Geo. M. Richardson.....	Williamsville	Sangamon	Ford.....
L. Virgil.....	Ellsworth	McLean	McLean.....
Clarence Pease.....	Monticello	Platt	Platt.....
R. Clinton Lloyd.....	Canton	Fulton	Fulton.....
Herbert R. Judd.....	Wenona	Marshall	Marshall.....
Ernest Mills.....	Mt. Palatine	Putnam	Putnam.....
F. M. Scanlon.....	Avon	Fulton	Tasewell.....
J. E. Meatheringham.....	Camp Point	Adams	Adams.....
Owen J. Green.....	Rushville.	Schuyler	Brown.....
E. L. Worthen.....	Warsaw	Hancock	Hancock.....
A. L. Beal.....	Stronghurst	Henderson	Henderson.....
S. F. Null.....	Blandinsville	McDonough	McDonough.....
Clyde E. Brown.....	Rushville.	Schuyler	Schuyler.....
Boland C. Dickson.....	Deco	Hancock	Warren.....
O. J. Greer.....	Rushville.	Schuyler	Calhoun.....

Name.	Postoffice Address.	County.	County Represented by Scholarship.
R. A. McWard	Palmer	Christian	Morgan
Dwight S. Dalby	Taylorville	Christian	Christian
Albert Wade	Decatur	Macon	Macon
H. C. Shruppel	Barclay	Sangamon	Menard
Fred. W. Ladage	Woodside	Sangamon	Sangamon
William L. Bonnell	Elendale	Fayette	Fayette
Rollo J. Simonson	White Oak	Montgomery	Madison
Elbert A. Jenkins	Tower Hill	Shelby	Shelby
C. W. Laughead	Flat Rock	Crawford	Crawford
F. J. Fessant	Sandford, Ind.		Edgar
Susan S. Bernhardt	Shumway	Efingham	Efingham
W. H. Montgomery	Aledo	Mercer	Lawrence
C. B. Dorsey	Moro	Madison	Clay
J. M. Jordan	Savoy	Champaign	Edwards
S. D. Fairchild	Sullivan	Montrie	Gallatin
Chas. E. Walcher	Millersville	Christian	Hamilton
S. J. Haight	Mendota	LaSalle	Jefferson
J. J. Ewald	Belmont	Wabash	Wabash
Charles Wierman	Lostant	LaSalle	Wayne
Albert A. Thompson	Norris City	White	White
John G. Beckmeyer	Buxton	Clinton	Clinton
C. Thompson	Champaign	Champaign	Marion
P. C. Scott	Kempton	Ford	Perry
E. O. Lense	Urbana	Champaign	Randolph
Gustave H. Eidmann	Mascoutah	St. Clair	St. Clair
F. M. Wells	Moline	Rock Island	Jackson
Arthur M. Oaks	Metropolis	Massac	Massac
G. Hacker	Golconda	Pope	Pope
Robt. B. Endicott	Villa Ridge	Pulaski	Pulaski
Clyde B. Coleman	New Windsor	Mercer	Saline
W. W. Stone	Mason City	Mason	Mason

This year some counties had no applicants and their places were filled by the appointment of those from other counties; hereafter it is expected that each county will fill its own quota. Beginning with the college year of September, 1900, the Illinois Farmers' Institute will again award scholarships for the ensuing two years. Those wishing scholarships, therefore, should apply early to the Institute Director of the district in which they live and make arrangements to begin work with the college year. The value of these scholarships will be greatly enhanced by the completion of the agricultural college building and the increased facilities for instruction. We have given full information in regard to the courses of study in the programs of this meeting and I suggest that each delegate take a few copies home with him to give to those who might avail themselves of a course of study in the college of agriculture.

We anticipate and believe that the boys and girls who attend the University will become institute workers in their respective counties; that they will carry enthusiasm and inspiration into the Farmers' Institute meetings; that they will become the pioneers of scientific and intensive farming and through them the resources of our great State will be developed and our agriculture raised to a higher plane.

ILLINOIS FARMERS' INSTITUTE FREE LIBRARIES.

"All that mankind has done, thought or been is lying as in magic preservation in the pages of books. They are the chosen possessions of men."—THOMAS CARLYLE.

"The supreme privilege of our generation is not rapid transit, nor increase of comforts and luxuries. Modern civilization hath its flower and fruitage in books, and culture for all through reading."—HILLIS.

"Books save a man's time and strength, also increase his manhood and multiply his brain forces."—HILLIS.

Through books we can have around us the wisest counsellors, the best of teachers, the most learned or scientists, the most entertaining talkers and truest friends.

There is no better place in the world in which to read and enjoy the company of good books than in a farm home.





Each one of the Illinois Farmers Institute Libraries contains from 50 to 55 volumes. Among the books in each case are some pertaining to agricultural and horticultural lines; some treating of domestic science and home topics, and the rest of the books consist of general good literature, including biography, history, essays, fiction and poetry, something for the instruction and entertainment of every member of a household, and a source of pleasure and inspiration for all.

Any rural community can secure the free use of one of these libraries for six months by filing application for same with the undersigned.

For application blanks and further information, address

A. B. HOSTETTER,
Secretary Illinois Farmers Institute.
SPRINGFIELD, ILL.

It needs no argument to prove the value of books. The people freely raise by taxation large sums of money annually for libraries for cities, high schools, normal schools and universities. In addition to the libraries supported by taxation magnificent bequests are made from time to time by the wealthy who wish, in the most direct way, to help their fellowmen to attain that knowledge and culture which will enable them to lead happier lives and become better citizens.

Those who have books have them in great abundance, but those who have none have no help to procure them either by taxation or bequest.

How to place books within the reach of those who live in the rural districts, who on account of their isolation can not have access to the free public libraries, and yet have the greatest opportunity and desire to read is a question yet to be solved. An appropriation of \$200 was made in 1897 to the Illinois Farmers' Institute for library purposes, but no use made of it till the present year, when the Board of Directors decided to add to this amount and procure and put in circulation a few libraries to test the feasibility of free traveling libraries under the control of the Illinois Farmers' Institute.

The organization of the Illinois Farmers' Institute seems well adapted for a work of this kind. It has a central office in the State House, in charge of a secretary, where the libraries can be collected and distributed and the records kept. It has an advisory board consisting of one director from each congressional district of the State, and has a County Farmers' Institute organized in every county in the State, controlled by public spirited men and women who can locate libraries in their respective communities, encourage their use and provide for their care.

The Illinois Farmers' Institute Free Library is packed in a neat case, (see illustration) convenient for the use and protection of the books.

Each library contains about 50 volumes of interesting reading matter suited to all the members of a family. There are books on the various lines of farming, live stock and dairying, books on domestic science and household subjects and books that will interest and delight the boys and girls of every age. Books that will tell about the world and people outside and away from the farm, and books that will help the reader to see and appreciate some of the beautiful and wonderful things that come into every day life. Books for instruction and information and books for inspiration and pleasure.

Twenty-one libraries have been equipped and started on their rounds of usefulness. They are located as follows:

Library No.	Town.	County.
1	Camp Point	Adams
2	Hebron	McHenry
3	Sparta	Randolph
4	Carbondale	Jackson
5	Savoy	Champaign
6	New Burnside	Johnson
7	Edwardsville	Madison
8	San Jose	Mason
9	Bates	Sangamon
10	Vermont	Fulton
11	Cheneyville	Vermilion
12	Elsworth	McLean
13	Arcola	Douglas
14	Benton	Franklin
15	Tamaroa	Perry
16	Filmore	Montgomery
17	Sorento	Bond
18	Bound Prairie	Sangamon
19	Viola	Mercer
20	McLeansboro	Hamilton
21	Grandview	Edgar

These libraries are sent out on receipt of the following application properly filled, blank forms of which can be secured from the superintendent of institutes:

APPLICATION FOR A LIBRARY.

We, the officers and members of the County Farmers' Institute of Illinois, hereby apply for a Farmers' Institute Free Library to be used by the people of.....

We hereby agree to observe strictly the rules of the Illinois Farmers' Institute in regard to the same. We promise to pay the expense of the transportation of this library from and to Springfield, Illinois; to provide a suitable place to keep it, where it will be convenient for our neighbors and ourselves to borrow its books; to make no charges for its privileges; to collect suitable fines for overtime in the use of books, for the loss of any of the books or undue injury to them.

We agree to appoint a responsible person to act as librarian, who shall loan the books without charge to any person in the community who will observe the rules of the library.

We agree to be responsible for the safe return of the library in good condition to the secretary of the Illinois Farmers' Institute when called upon to do so.

(The above application must be signed by the president and secretary of the County Farmers' Institute where the application is made and five or more tax payers of the community, three of whom shall be free holders.)

The library which we may receive will be kept by.....
P. O. address..... whom we have appointed librarian, in
(state whether residence, store or office)..... and will be open to
the public from..... M. to M. on (state days of the
week)

(Signed), Secretary.

Post office

..... Co., Ill.

The use of the books will be free to all who will comply with the rules of the library. The rules for the use of the books and for the library are as simple as they can well be made. Books may be kept by the reader for two weeks. The librarian will keep a record of all books loaned, on a stub book provided for the purpose.

After a library has been in a community for six months, it is returned to the State House, the books checked up, and it is then sent to another place.

Many more applications for libraries have been received by the Secretary than can be filled immediately, but those wishing a Free Library for the use of the people of their community should apply at once, and applications will be filled as fast as the funds of the Farmers' Institute will permit, or as soon as libraries now out become available for a second trip. If the demand for these libraries becomes greater than the ability of the Farmers' Institute to supply them, if the books are well cared for, read and re-read, and a second library asked for by the same community that has read one, then there is reason to expect that the next General Assembly will make an appropriation to extend the work till every rural district within the State may have a library within the reach of its people.

We have not had time yet to receive extended reports of the use made of the books in these libraries. A few extracts of letters from those who have received libraries will show how they are appreciated.

A letter from San Jose, Mason county, says: "Have this day placed the library; all who have examined it are more than pleased with it, and quite a number of books have already been taken."

Arcola, Feb. 6th: "The library received is all right; have sent out quite a number of the books already. Will we get another section when this one is returned?"

From Sparta: "I am well pleased with the selection of books and think they will be readily taken and read by the farmers and people generally."

From Elsworth: "The free library reached me on the 30th. Our people appreciate it highly and are making good use of the books."

From Benton: "Library No. 14 received O. K., and to say that it is grand, instructive and highly appreciated is but putting it mildly. I have it in my store and have already shown it to several prominent farmers, who praise it highly and seem eager to get such good reading matter. One farmer came rushing in, saying that he heard I had a free library for farmers and wanted to know if I could furnish him some information on chickens. I replied that I could. He went out of the door reading. I am certain our farmers will derive much benefit from the library."

Perhaps enough has been said to show that there is a demand and place for good books in the rural districts. We have no doubt but what every book in these libraries will be read and re-read again and again.

The children will, of course, begin with the books suited to them, and if the supply of books is maintained from year to year the young people will acquire the desire for good literature and the habit of reading, which, in the years to come, will mean much for the development of the farmer and his calling. It has been truly said that one year's experience coupled with the reading of the right kind of books will teach a man more than twenty years of his own unaided observation and experience.

A man well along in years, living on a ranch in the west 100 miles from a railroad and twenty miles from the nearest neighbor, was asked how he could endure such isolation and solitude. "I am not lonely," he replied. "Have I not nature all around and close to me everywhere? Besides I have the best of company. Thoreau comes and talks with me of Walden Pond and Boston, its environments and people; Burroughs and Audobon make trips with me to the mountains and the woods; Charles Dickens brings his friends and acquaintances to see me and they have become my friends. When I feel the need of a change I explore Africa with Livingstone or Stanley, or talk with George Kennan about the hardships of Siberia. The travelers from the Wayside Inn drop in and recite their tales to me anew; I have reserved a seat for Shakespeare's plays for any night in the week. I go to the neighbors or they come to me at least once a month, and when we meet we visit. I waken every morning to the Martin song service of the birds and I am never lonely. But I pity, from the bottom of my heart I pity the poor fellows in the city who are crowded and hurried by people everywhere and yet have no time to know any one, who do not read any books, who have no company and no neighbors." This anecdote is founded on fact, and if books can sustain, comfort and keep alive the thinking faculties of a man upon a ranch they certainly can relieve the monotony and isolation of farm life in Illinois homes. The inspiration, pleasure and profit to be derived from good reading is beyond calculation.

PUBLICATION OF THE ANNUAL REPORT.

Under the present law creating the Illinois Farmers' Institute the annual report has to be printed by the Department of State under the general contract for State printing. This contract seems to be made without adequate time limitations, so that the last report which should have been completed not later than September at the outside, was not delivered to us till January 20, 1900, and then in only small installments for several weeks.

To reach the parties who are the most interested in and benefited by the Institute reports, these reports should be distributed at the county institute meetings and during the early winter months when the farmers have time to read them. Some action by this body instructing the committee on legislation to secure a fund from which the Institute can have its report printed on the open market, or a time limit in the State contract for printing, so that our reports may be issued promptly and be distributed when and where they will be of the most use.

INSTITUTE CONFERENCES.

The district conference institute workers and officers under the management of the director of each congressional district, composed of delegates from each county institute in the district, has proved to be one of the most valuable means of promoting the Institute work. The mere meeting and becoming acquainted with those who are engaged in the same line of work has a tendency to create an enthusiasm for the work and a friendly rivalry to secure better results.

These conferences give an opportunity to compare methods and experiences, and have enabled the institute officers of adjoining counties to arrange dates of meetings so that they can cooperate in the selection of topics and the most able speakers to present them. Such cooperation has also enabled speakers who are in much demand to fill more appointments than would otherwise be possible.

The conference also affords the delegates an opportunity to discuss the qualifications of the speakers and instructors and enables them to determine whether they are doing good work or only entertaining or tiring the people. Unless the lessons taught and the information given at institute meetings begins to show in better methods of farm management, live stock improvement, higher grades of fruit and farm products, the betterment of the home and its environment, then the Farmers' Institute is falling short of its true mission. These conferences, therefore, should consider results as well as the ways and means for the extension of the work. We believe that every community in which an institute is held is benefited, uplifted and improved by its influence, and that these benefits and influences are far reaching, affecting many more people than actually attend the meetings.

THE AGRICULTURAL AND LOCAL PRESS.

In disseminating the benefits of the institutes the news and agricultural papers of the State have done royal service. They have not only published the programs and notices of the meetings but they have given what is of more value, full and complete reports of the papers read and discussed.

The more enterprising rural papers have published the institute papers in full, keeping up the institute work among their subscribers for weeks and even months in some cases. As institute officers and workers we desire to express our high appreciation of this endorsement and support by the press.

I thank you for your kind attention to this somewhat long report.

Mr. Kimzey moved that a committee of five be appointed as committee on credentials. Motion was seconded, and unanimously adopted.

It was then moved and seconded that the report of the superintendent of institutes be adopted, and the same published, which motion was unanimously adopted.

Mr. King then moved that a committee of five be appointed by the chair on resolutions, and that all resolutions presented to this meeting be referred to that committee without debate. The motion was seconded, and unanimously adopted.

President Willmarth then announced that it was impossible for the Hon. G. F. M. Ward, Mayor of Mt. Vernon, to be present, and Hon. Norman H. Moss would deliver the address of welcome.

Address of welcome delivered by Norman H. Moss to the Illinois State Farmers' Institute, at the Opera House, Mt. Vernon, Illinois, February 20, 1900:

Mr. President, Delegates to the Illinois Farmers' Institute.

LADIES AND GENTLEMEN:—Through the courtesy and by the request of the Hon. George F. M. Ward, Mayor of Mt. Vernon, I find myself acting as a substitute, whose pleasant duty and great pleasure it is to welcome the representatives of your august body to our city on the occasion of your fifth annual meeting. And I beg to assure you in the very beginning, that it is not merely a matter of outward form, but a deep-seated consciousness of the importance of your mission, and with a knowledge of the splendid work you have so nobly begun, that makes it indeed a hearty welcome.

Without boasting, but with a feeling that some may criticise our utterances, we wish to say that nowhere upon the face of this broad and unsurpassed commonwealth would you be more cordially received. The hospitality and old-time chivalry characteristic of our sister state of Kentucky, or the ever-green mountains of Tennessee, from which states many of the inhabitants of this section of Illinois come, can not eclipse the big-hearted, open-handed hospitality which greets you here today.

Mr. President, it was a happy thought that entered the mind of that member of the 39th General Assembly (I'm sorry I do not know who it was) and inspired him to draft the bill creating the "Illinois Farmers' Institute," which by its own language was destined "to assist and encourage useful education among the farmers, and for developing the agricultural resources of the State." This act provides that "the affairs of the Illinois Farmers' Institute shall be managed by a Board of Directors, consisting of the Superintendent of Public Instruction, the Professor of Agriculture of the University of Illinois, the President of the State Board of Agriculture, the President of the State Horticultural Society, the President of the State Dairymen's Association, and one member from each congressional district of the State." Verily, this legislator "built wiser than he knew." The 39th, 40th and 41st General Assemblies, the last of which your humble servant had the honor of being a member, made liberal appropriations for the running expenses of the head offices, whose quarters are located in the State House at Springfield, and also provided a fund of \$75.00 per annum, for the years 1899 and 1900, for each county in the State holding at least two days' Institute. In addition to this, the 41st General Assembly also appropriated "for buildings and appurtenances for the College of Agriculture, in order that the agricultural, horticultural, dairy, and other departments of that college may be properly organized, \$75,000.00 per annum for the years ending July 1, 1900, and 1901." A cut and full description of which building may be seen on the cover page of the official printed program of this Institute, to which I refer for further particulars. Thus it will be observed that the law-making bodies of our State are alive to the interests of agriculture, and have made magnificent provisions for higher education in all that pertains to farming and kindred avocations.

In the management of the affairs of your Institute, you have the wisdom of all the last above named, which combines the common school, the high school, the agricultural college, the university and the academy. You have the practical, the theoretical and the scientific—in education, in agriculture, in horticulture, in live-stock and dairying, all of which gives new life and energy to everything pertaining to these stupendous industries. The people of every section, from Alexander to Winnebago, and from Adams to Vermilion, of whatsoever shade of politics or religion, birth or station, are enormously affected by the work of these institutes. By the uniting of all these great forces, naught but good can possibly result. You improve the methods of farming, thereby lightening the labor, and increasing the kind and quantity of her products. By the discussion of the best breeds of live-stock for farm use, and for market, you mutually benefit one another, and at the same time satisfy the wants of our city brethren, who consume our surplus, and constantly demand the best.

Horticulture and floriculture have their appropriate place in your deliberations, and allow me to say that there is no place where these subjects may be more practically and profitably considered than right here in the heart of "Egypt," where we produce the most delicious fruits and beautiful flowers in their season.

Why, Mr. President, the strawberries, cherries, blackberries, dewberries, raspberries and grapes, apples, peaches, pears, plums and persimmons, produced in such abundance, in this great fruit belt of southern Illinois, command the highest prices in every market we can reach, and are excelled in variety, quality and quantity by the fruit of no other section on this continent.

But, Mr. President, we are all equally interested in education, in good crops, in good roads, in improved breeds of stock, in advanced methods of farming and fruit growing, in domestic science—home making, in everything that tends to the upbuilding of our State and nation and the ennobling of our race.

The sons of Illinois have borne a conspicuous part in every field of endeavor. In agriculture, in manufactures, in transportation, in mining and commerce, in finance, in education, in humane reforms, in statesmanship, in war or in peace, the people of Illinois have at all times marched at the front. The achievements of this people have been second to none in the world.

Our State in all her native richness, with all her wealth of products, mineral and manufactured, with all her network of railroads for the transportation of our surplus of products to domestic and foreign markets, with her innumerable churches and school houses, her colleges and universities, with charitable, penal and reformatory institutions—the pride of her five million inhabitants, engaged in peaceful and profitable pursuits—is the gem of the Mississippi valley—an empire within itself—the very name of Illinois carries with it inspiration and patriotism, cheer and hope.

Illinois is a garden 400 miles in length by 150 miles in width, with an area of 55,410 square miles of territory. On the American bottoms, it has been cultivated for 150 years without renewal. It produces nearly everything grown in the temperate and tropical zones. She leads all the other states in the number of acres actually under plow, and in the production of live stock and grain. Her products from 25,000,000 acres, are simply incalculable. She excels all the other states in depth and richness of soil; in per cent of good ground; in acres of improved land; in large farms; some containing from 40,000 to 60,000 acres of cultivated land; in the number of farmers actually engaged in the business of farming; in the amount of wheat, oats and corn produced; in the value of animals for slaughter; in the number of hogs and horses, and in the amount of pork.

Be patient with me and pardon my pride, and I will tell you of a few other things in which Illinois leads all the rest. She has more miles of railroad, and also of postal service. She leads in the number and amount of money orders sold, and internal revenue paid. She was third in population in 1890, and will be a close competitor for second honors by the census of 1900.

Mr. President, Illinois has 41,000 square miles of coal, more than double that of any other state in the Union. One-seventh of all the known coal on this continent slumbers beneath our feet. It is estimated that if we could sell the coal in this single state for one-seventh of one cent a ton, it would pay the national debt; reduce these tons to bushels and multiply the number by 7 or 8 cents, the current price of coal per bushel, and the product would be a sum so fabulous that the human mind could scarcely comprehend it; converted into power, even with the wastage of our common engines, it would do more work than could be done by the entire race, beginning at Adam's wedding, and working ten hours a day through all the centuries, till the present time, and right on into the future at the same rate for the next 600,000 years. It has also been estimated that, at the present rate of consumption, England's supply of coal will be exhausted in 250 years; at the same rate, the deposit of coal in Illinois will last 120,000 years.

Time forbids that I should pursue this subject further, but I trust enough has here been said of the greatness of our State, in all that goes to make greatness in a material sense, to justify our pride in our own chosen and beloved Illinois.

Passing from the realm of thought into which we had most naturally drifted, it would seem most appropriate to relate that twelve years ago yesterday, (February 19, 1888,) this city, then composed of some three thousand souls, was visited by a most disastrous cyclone, which swept a path diagonally across the town from the southwest to the northeast, about an average of a hundred yards in width, beginning at the residence of Mr. L. N. Beal, the honored vice-president of this Institute, where it partially destroyed his residence and seriously injured his estimable wife, going on in its relentless fury, destroying almost everything in its wake, carrying death to our citizens and destruction to their property and homes—thirty people being killed instantly, or dying subsequently as a result of the injuries received. County court house, churches, school houses, business blocks and dwellings, of frame, brick or stone, crumbled like buildings of straw before the supernatural power of the tornado. This appalling calamity simply beggars description. The nerve of the most courageous was severely tested; the stoutest hearted men stood bewildered at the wreckage and desolated appearance of the once beautiful and quiet little city. The cries of the unfortunate, whose loved ones had been snatched from their bosoms in a twinkling, or the groans of the victims who by chance had been pinioned by debris flying in the air, or lay helpless and bleeding beneath the wreckage of their own homes, constantly greeted the ears of their more fortunate neighbors. To recover from the shock of such an unusual occurrence, or to restore order out of the confusion that existed and build up the waste places, was indeed, an arduous task. A generous public poured funds and supplies into the treasury of our relief committee, and within a remarkably short time the town had put on an entirely different appearance. All our public buildings and most of the destroyed homes have long since been rebuilt, but time itself can not wipe away the record of that unhappy event.

We have taken on a new growth, have enlarged our borders by taking in a number of additions to our city, and by increasing our trade and doubling our population in the last few years. This lovely little city of seven thousand inhabitants has another landmark, an historic old court house, so long the seat of the Supreme Court of the Southern Grand Division, now the home of the Appellate Court of the Fourth District;—this ancient temple of justice where such noted jurists and legal luminaries as Justice Sidney Breeze, Walter B. Scates, Robert F. Wingate, John H. Mulkey, Abraham Lincoln, Stephen A. Douglas, John A. Logan, John M. Palmer, Lyman Trumbull and Richard Yates have often crossed swords in forensic battle and won their honors in the arena of debate.

This city, with her miles of improved streets, brick and granitoid sidewalks; with her school houses and churches of modern design and up-to-date architecture; with her electric light plant, her tie-preserving plant and coal mine, her car shops and water works, acknowledges the great honor conferred in the selection of this city for your Fifth Annual meeting, and wishes to reciprocate in full measure. Accordingly, we greet you, one and all, with open arms. In the name of his honor, the Mayor, I extend to you the liberties, and hand over the keys of the city, and bid you a most hearty welcome to our midst.

President Willmarth then presented Col. Charles F. Mills, of Springfield, who replied to Mr. Moss as follows:

LADIES AND GENTLEMEN:—Mt. Vernon is certainly to be congratulated upon the very able, eloquent and very handsome mayor that we have heard deliver this splendid address of welcome this morning. I had the pleasure of reading this address last evening for the first time, and, Mr. President, if I had been given the privilege of receiving due notice, I should have certainly asked you to appoint some other more eloquent gentleman to have responded

to this very feeling address that we have all been thrilled with; but the address that I have prepared was prepared without the inspiration of the very splendid effort that our friend Moss made this morning.

The Illinois Farmers' Institute, and this representative gathering of the enterprising and progressive farmers of this premier agricultural State, with their families, have been convened in this beautiful city of Mt. Vernon on the cordial invitation of your honor, Mr. Mayor, and that of your citizens. Your city has an extended reputation for hospitality, culture, and that of patriotism, that makes it the chief ambition of its citizens to strive for the promotion of the best interests of mankind.

On behalf of the Illinois Farmers' Institute, it gives me great pleasure, Mr. Mayor, to assure you and the good people you represent, of the cordial and hearty vote of thanks of this organization, and the influential and distinguished gathering assembled for the gracious hospitality you have so kindly and eloquently tendered.

The attractions of Mt. Vernon and the enterprise characteristic of the progressive citizens of this beautiful city and the prosperity of the thrifty farmers of this section of the State are well known to all in attendance, and we anticipate much pleasure and benefit to result from this conference, and the delightful friendships made and renewed while here, that will prolong for many years the pleasant memories of the State Institute meeting of 1900.

A cordial invitation has been extended by the Illinois Farmers' Institute to the leading farmers, horticulturists, dairymen, live stock breeders, gardeners, etc., of the State, to attend this important meeting. It is our purpose, by discussion and exchange of experience, to aid you in the further development of the resources of this section of the State. We expect to return to our homes with much valuable information concerning the advanced methods adopted by the successful farmers, fruit growers and producers of southern Illinois, and with an increased admiration for the enterprising people of this section, and a higher appreciation of the great possibilities in the future development of the agricultural resources of southern Illinois.

The ample and satisfactory local preparations you have made for this Institute, evince your high appreciation of the great benefits that will result from the holding of this meeting in Mt. Vernon.

The State Farmers' Institute, realizing the advantages to the farmers of Southern Illinois of a meeting of this character, have provided for you a program of rare excellence, covering a wide range of up-to-date topics, that will be presented and discussed by ladies and gentlemen of exceptional ability and successful practical experience in their special lines of effort.

In response to addresses of welcome, it is customary at meetings of various kinds, to present the objects of the organizations, to the end that parties in attendance for the first time, and strangers to its purposes may be advised of the character and scope of the conference.

The object and work of the Illinois Farmers' Institute is, "to assist and encourage useful education among the farmers and for developing the agricultural resources of the State."

The act of the General Assembly creating the Illinois Farmers' Institute, provides for the holding annually of a public meeting of three days duration of the farmers of this State, for the purpose of developing a greater interest in the better cultivation of crops, in the care and breeding of domestic animals, in dairy husbandry, in horticulture, in farm drainage, in improved highway and general farm management, through and by means of liberal discussions of these and kindred subjects, and any citizen may take part in these meetings.

The board of directors is authorized by law to make and enforce such rules and by-laws, not in conflict with the laws of this State, as will render its work most useful and efficient.

It will be seen that the wildest latitude is given by the State to the wisdom and patriotism of the Illinois Farmers' Institute, through the efforts of its board of directors, to promote the interests of all engaged in agricultural pursuits.

PLATFORM.

The platform of this popular organization is so broad and so solid is its support that each one desirous of doing his duty to his neighbor or the State can stand firmly upon it and find a cordial welcome and helping hand in its conferences.

The planks in the platform of the Illinois Farmers' Institute and the principles represented by each may be briefly stated as follows:

It stands for an up-to-date Institute in each county in Illinois.

The officers of the up-to-date County Institute make it the county farmers' congress, where all live questions of interest to the progressive agriculturist can be frequently and fully discussed by home and other talent.

The up-to-date County Institute is fully impressed with the great importance of organizing and assisting in the conduct of a farmer's institute in each township, thereby giving each neighborhood the social and educational advantages of monthly meetings in which the nine-tenths of the rural population may participate that do not attend and can not be reached by the County Institute.

The up-to-date County Institute fully appreciates the great advantages that result from the formation of a county domestic science association in each county, and its officers esteem it a great privilege to aid the farmers' wives and daughters in obtaining the many benefits of such an organization.

The up-to-date County Institute never fails to have a large and creditable display of the products of the farm and pantry on exhibition at its meetings; and committees are appointed to have the best specimens of grains, fruits, vegetables, etc., of the county shown each year to the best advantage at the county and State fair.

The up-to-date County Institute is always represented by one or more students at the State Agricultural College.

The up-to-date County Institute has its circulating library of standard agricultural books, and encourages each neighborhood to obtain, for the asking, the valuable free libraries provided by the State Institute.

The up-to-date County Institute encourages the establishment of a high school in each township not accessible to a town or city having such an institution, to the end that the boys and girls residing on the farm, who would otherwise be deprived of necessary instruction, may have the advantages of advanced education, so essential to success in all the avocations of life, whether on the farm, in the factory, in the office or in the marts of trade.

The platform of the State Institute contains other planks than that represented by the up-to-date County Institute and referred to above.

It stands for a State Agricultural College, with ample buildings and complete equipment for the most thorough and advanced courses of study in all the departments of rural husbandry.

It stands for the largest and ablest corps of instructors to be found in any agricultural college in the land.

It stands for the presence of not less than one thousand agricultural students at Champaign, creditable representatives of the homes of the most progressive farmers of Illinois.

It stands for a line of instruction in the college of agriculture that will best fit the girls of the farm for the highest of all earthly callings, that of so feeding and educating the coming generation that there may be no lack in the development of heart, mind and muscle that will be demanded for the high civilization of the new century.

It stands for better teachers and better teaching in each rural school, and pledges the State Superintendent of Public Instruction and his co-laborers a full measure of support in the most commendable efforts that are being made to give the willing taxpayers the best results for the vast fund so cheerfully provided for the education of the children of the State.

It stands for the ample appropriation of State funds for extending the usefulness of the State Dairymen's Association and stimulating the early increase in the home production of butter and cheese necessary to supply our local markets, and to save to the farmers of Illinois the millions of dollars annually sent out of our borders for dairy supplies that can be made by our people, much to the advantage of this commonwealth.

It stands for the increased appropriation for, and the more general support of the officers of the State Horticultural Society by the farmers of the State, in the splendid effort that is being made by this intelligent, efficient and progressive agency to promote the rapidly developing interests of the fruit-growers of Illinois.

It stands for enlarged and attractive accommodations for the annual exhibition of the best products of our farms, the best specimens of our skillful breeders of improved stock, the handiwork of the deft house-wife, the various implements, utensils and appliances used on the farm.

It stands for such hearty, undivided and liberal support of legislator and exhibitor as will enable the State Board of Agriculture to provide each year such an exhibit of our agricultural resources and industries at the State fair as will reflect the greatest honor upon an intelligent, progressive and prosperous people, that Providence has so abundantly blessed with the most beautiful and productive territory to be found on the face of the globe.

The Illinois Farmers' Institute has a bright history, and since its recent organization has done much to promote the intelligence, prosperity and happiness of the rural population it so creditably represents.

The future in the Institute work in Illinois is bright with promise, and this organization has a much greater field for usefulness than it has heretofore occupied. Its promoters desire to fully occupy this fertile field of effort and ask the counsel and coöperation of all interested to the end that the work may be creditable and meet the expectations of the progressive farmers of the State.

In conclusion, Mr. Mayor, permit me to extend to you and the citizens of Mt. Vernon, and to all who have so cheerfully and creditably aided in completing the satisfactory arrangements for this meeting, a full measure of thanks of the Illinois Farmers' Institute and its vast and influential constituency.

For the cordial and hearty welcome you have extended this gathering, as the mayor of the city, we shall ever hold you in grateful remembrance, and it affords me the greatest pleasure to assure you that your kind expressions of appreciation and esteem for your guests here assembled are most kindly reciprocated.

President Willmarth then announced the committees, as follows:

Committee on Resolutions—S. Noble King, A. P. Grout, Amos F. Moore, Henry M. Dunlap and G. W. Dean.

Committee on Credentials—W. R. Kimzey, E. W. Burroughs, W. L. Frisbie, Oliver Wilson, Mr. C. W. Carl.

The Secretary then called the roll of County Farmers' Institutes, and the following counties made reports as follows:

Bond County:—

Mr. J. I. Denny, Sorento: Our Institute has kept up the regular monthly meeting and has endeavored as far as possible to discuss such subjects as would be most beneficial to the farmers at each meeting. Several topics discussed are as follows: Best methods of improving our land, stock feeding,

how to grow corn, wheat, oats, potatoes and small fruit; also the best methods of disposing of the same. At our annual meeting last fall we had one of the best programs that could be had. One person said that it was the best program that he had ever seen on the same amount of paper. We have had the best speakers that we could get; some of them are on the program for this meeting. We had two of the best domestic science women in the State and they told us how to get up a scientific meal. They also organized a domestic science association, which I think will be beneficial.

Christian County—

Mr. H. Grundy, Morrisonville: Christian county has held thirteen annual meetings, and the work is progressing. There have been a number of years in which those of the Institute have felt very much discouraged. There are a great many farmers in our county today who absolutely refuse to advance one step from the old customs of the first settlers of the county. When they had half a continent and virgin soil just west of them they did not realize that the continent would be taken up. There are men in our county, and I presume in every county in the State, who, I believe, if they had the ability to do so, would destroy every ounce of fertility of the soil and ship it out, regardless of their own future welfare and the welfare of posterity. The Institute is endeavoring to put a different class of ideas into these men and get them aroused. The last meeting was the best we ever had in connection with our County Institutes. We had an agricultural exhibit for the first time, and that aroused a great deal of interest and we had a greater attendance than we would have had otherwise.

Clay County—

Mr. Israel Mills, Clay City: Held a meeting at Flora, Ill., Oct. 25 and 26, 1899, and elected officers. The Institute was conducted according to the program, and was of growing interest, and had a good exhibit of fruits and farm products, showing an increased interest in agriculture and horticulture.

Coles County—

Mr. T. L. Endsley, Charleston: In Coles county we held our ninth annual County Institute January 25-26, 1900, and all things considered, it surpassed any previous Institute. However, as concerning program, we have never failed to carry out a creditable one, but we seemed to fail in interesting the class of farmers that the Institute was specially designed to help. This year, as in former years, the minds of our leaders were at work, trying to think of some new feature to introduce as a drawing card, and it was finally decided to ask the business men of our county capital to offer a few special premiums for displays of farm products, etc. Also a colt show on the first day was introduced and proved a decided success. Our worthy president, Mr. G. A. Willmarth, and others were with us. The Eastern Illinois Normal faculty and Mr. J. K. Stableton, principal of our public school, furnished an agricultural educational program for the evening session on the 26th, and the committee on Domestic Science rendered a very interesting and instructive program for the afternoon session of the last day. The Opera hall was well filled during all the meetings and they were not all of the city population either. We hope to more than duplicate the interest manifested this year in our next annual meeting.

Crawford County—

Mr. John D. Trimble, Trimble: This makes the fourth year in Institute work in our county. It has been growing for three years and this year it gets its growth, as we have no house in our county that will hold it any larger than it was this year. One year ago Mrs. Dunlap spoke to forty women's husbands and three girls and the improvement is so great in a year's time that I want her to come back again and just see an audience of Crawford county ladies that can appreciate her talk. Our Institute meeting this winter seemed to be very interesting from start to finish, and I believe done our people much good.

Cumberland County—

Mr. A. H. Yanaway, Toledo: As one of the delegates to the 1900 meeting, at Mt. Vernon, I would report that we have had three Institutes in our

county, each better than the one preceding; and the last, namely the 26th and 27th of January, 1900, was a grand success in every particular. At our meetings there was a crowded house in an extra large room, and on the last day the crowd was so large not more than one-half could be admitted. The program was carried out nearly, and much more added, including an able address by our worthy State president, Mr. Willmarth, on Agricultural Education. In connection with our Institute we had a mid-winter display of farm, dairy, household and textile articles, which was pronounced by all who saw it the best ever exhibited in the county; also Mr. J. M. Dashill, of Deatur, was in attendance at our Institute with his corn and seed display, which was very beneficial and instructive to our farmers. The first day's attendance 800, second day 1,500. One feature is the large attendance of the young men and ladies of the county. A Domestic Science Association was organized by Mrs. S. Rose Carr, Vice President 19th Congressional District. President, Mrs. Mollie Eskridge, and Mrs. E. E. Hartby, Secretary, both of Toledo.

DeWitt County—

Mr. F. M. Borders, Clinton: We have had ten Institutes in our county, with continually increasing interest. We want to make note of the fact that we have the financial part of it until we have quite a reserve fund in our treasury. I think it would be of interest in this report to mention some of the means by which we have been able to command sufficient money to run our Institutes. One of them is by means of the program; we have made that a source of profit rather than the source of expense.

We have taken advertisements of all the business interests in the county, and thereby all the business men took an interest in it. They have deposited a fund in the printing of the program, and consequently their interests are thereby enlisted. We have not failed to make from \$20 to \$50 each year, profit, out of the program that we have printed. The last year I think we had \$50 profit. It was not so much this year, from the fact that it was given into the hands of a committee whose business it was to tend to it. It is a very arduous task—a task of a great deal of labor to get up the program, to solicit and get the various advertisements, and I would suggest for such counties as undertake to follow this plan, that they hire some one by commission—give them a commission in the profits that are to be derived from the printing of the program, and let them work it up from beginning to end. Let them visit every business man in each county, and get them to advertise, and they will get the best results from it. Another plan now on foot in our county to increase the interest in such work is this: We started to raise a fund, first by popular subscription, but we found that we did not need to do that, and we raised it entirely out of the banks—about \$150—to be expended in premiums on the yield of corn, under the same rules and regulations as are required by the State Board of Agriculture. It will certainly help our farmers, inasmuch as if they do not get the premium they will inquire why, and create an inquiring frame of mind among our farmers. We have another fund, amounting to something like \$100, on hand, which we have offered for a premium at the next Institute for the best yield from 5, nor more than 20 acres of corn, to be judged by the cheapest production per bushel and the most practical method. We expect to get plans and methods that will certainly help our people, and we find that our Institute is growing.

Edwards County:—

Mr. A. Fewkes, Albion: Our 1899 Institute was held in connection with the 20th Congressional Institute on December 13, 14 and 15, under very unfavorable circumstances. The weather was horrible and the roads almost impassable. But we held an Institute just the same; though the attendance was not large the interest was good. We put off getting out our program too long and thereby failed to get some of the State workers we would. Mr. and Mrs. Beal were with us and did efficient work. County Domestic Science Association was organized; have always held at county seat, but think now we will put her on wheels and take her to the people. We think that some of the results of the Institute and other farm organizations in our county is a desire among our young

people for a higher education. At the southern collegiate institute in our county I think at least 75 per cent of the students are from the farm and some of them are demanding studies that will prepare them for a course at our State University, and they are getting them. Edwards county is a little slow, but the work she accomplishes will be something that will endure.

Fulton County:—

Mr. C. C. McCutchen, Norris: The Fulton County Institute, though in its infancy, having only just held its second Institute, is in a flourishing condition, with a bright future in prospect. Our last meeting was held at Canton, on January 9, 10 and 11. The other counties of the 14th district meeting with us. The weather was extremely bad during the entire session, and the attendance necessarily lessened from what it would have been under more favorable conditions, but the interest manifested was gratifying, and the outlook for a good Institute the coming year favorable. The Ladies' Domestic Science Association is in a specially active condition, a township organization at Lewiston having a membership rapidly increasing, with interest rapidly growing. In fact, the Fulton county organization, though young, has before it a prospect of long life and great usefulness.

Hamilton County:—

Mr. C. H. Koenmeyer, McLeansboro: We beg to make the following report of the doings of Hamilton County Farmers' Institute: There was held four meetings in the year 1899. Hamilton Institute is in a flourishing condition. The meetings are well attended. The Institute held an exhibition of the products of farm and household, which was a grand success; in fact it was beyond all expectation. The articles were of the best; in fact the judges complained that it was almost impossible to tell which were the best. The number of articles on exhibition was between 700 and 800. The attendance was beyond the capacity of the hall. The interest taken by the farmers and the public was very good. The last meeting held the 17th of this month, on account of the terrible condition of the roads and the inclemency of the weather, the attendance was small; but the interest taken by those in attendance was good. We think that the discussion by home talent is of more lasting good to the farmer than that of outside speakers. One reason is that the trains run so that they don't have more than one-half hour to stay; then their instructions are like a cook book. We have not half of the articles or the pocket book to get them with; what we want is something to encourage the farmer of small means. The rich farmer has the wherewith to carry him through. Our merchants and business men have taken a great interest in the Institute. They each and every one offered a fine, and some of them very expensive, premium. The sociability caused by discussion at the meetings, and the interest taken by each and every one has been of lasting good to the greater part of the county. We would suggest that the Board of Directors of the Illinois Farmers' Institute do everything in their power to cause the post-office department at Washington to establish rural delivery. We hope to do better this year in our Institute work, and we invite all who take an interest in Farmers' Institute work to visit our institute when in session. We will try and make it pleasant and instructive for them,

Jackson County:—

Mrs. S. Rose Carr, Lis: We held five annual Institutes. We have not had much success at our meetings, from the standpoint of attendance, but it is owing to how you look at success. In the last Institute four of the papers furnished by men of its Institute were published in the State report, and so from the standpoint of good work it is perhaps all right; but the attendance is not very large. We organized a domestic science association and Mrs. Carter and Mr. Willmarth were with us.

Jo Daviess County:—

Mr. G. W. Curtiss, Stockton: We held 13th annual Institute the 18th and 19th of last month, with attendance perhaps not as large as some, but the interest was greater than in any heretofore held. We found that interest was aroused on account of our home talent, which provoked discussion to the point; and we always have discussions at the ends of subjects.

Kankakee County:—

Mr. O. W. Barnard, Manteno: The Kankakee County Farmers' Institute was held at Manteno, in the north part of the county, on January 24 and 25, and in all respects was a gratifying success, various able papers and discourses on farm drainage, broad tired wagons, breeding and management of swine, horticulture for the farmer, education in the rural schools, the farm telephone, better methods in our homes, etc., subjected to the analysis of general discussion, and interspersed with music and recitations, made up a combination that was highly interesting and profitable. One feature of our Institute was the interest taken by the young people in the various exercises, and the large attendance attests the public interest taken in the meetings. We held five sessions, and the only regret was that our hall, which is a large one, was sometimes insufficient to accommodate the assemblage.

Lee County:—

Mr. J. L. Hartwell, Dixon: I am pleased to report that never in the history of Lee County Institutes have we held a more successful or more profitable meeting than the one in Amboy, January 9 and 10. We reached an attendance of six hundred, a large proportion of which were young men and young women actually engaged in farming. We held three sessions per day, with two topics for each session, devoting much time to discussions, which were spirited and pointed from start to finish. The board of supervisors appropriated ten dollars to be given to children in rural schools as prizes for essays on farm topics. The topics selected were, "An Ideal Barn," for boys, and "An Ideal Kitchen," for girls. There were twenty-two essays sent in, the four receiving prizes being read. This feature of our program was voted one of the most interesting and profitable. A prize of three dollars for first, and two dollars for second best loaf of bread made by any child in the county under sixteen years of age was given by one of our citizens. This brought out a splendid exhibit. We believe that if we are to have an intelligent and successful farm population the legitimate place to commence the farm education is with the children.

Macoupin County:—

Mr. J. C. Anderson, Carlinville: We held our 13th annual Institute last December, and it was more largely attended than any of the previous ones. There seems to be a growing interest in the work. It is the aim of our Institute to carry out a program on all topics of general interest to the farmer. We offered a prize to the children of the country schools for the best essays on the Farmers' Institute, which created quite a good deal of interest. Last spring the president of our Institute appointed a committee, which resulted in the organization of a poultry club, which held a very successful show. Next year we expect to hold an exhibit in conjunction with the Institute.

Marshall County:—

Mr. Elmer Quinn, Henry: The Marshall County Farmers' Institute has been organized and holding regular annual meetings for nine years. The interest is growing and the attendance increasing each year. We find that the topics that draw out the most interest and enthusiasm are those which are likely to affect the farmers in a financial way, such as questions pertaining to live stock at the present time, and when assigned to able speakers, nearly always bring out good crowds. Another important feature has been the school contest for evening entertainments, and has proven quite successful, though harder to arrange satisfactorily for all.

We have also held an exhibit of a few of the leading products in connection with the Institute, and offered prizes, thereby making it both instructive and beneficial. The display of products has a tendency to interest farmers that would not attend otherwise, and usually always with beneficial results. We think we have a very good Institute, and the outlook is favorable for continued good work.

Mason County:—

Mr. S. F. Parter, Mason City: Mason county held her 18th annual Institute at Mason City, October 4 and 5, with an increased attendance and interest. The exhibit has proven a success with us this last year. There were one hundred and eighty-one entries, and thirty-four premiums paid. Many of the exhibits were superior to those shown at the county fair and equaled any shown at the State Fair. The premiums were paid by the merchants of Mason City.

Massac County:—

Mr. J. F. McCartney, Metropolis: We have had three institutes in Massac county. We are cut off from the balance of the State down in what is called the lower regions, and have had very little connection with the balance of the State. In fact, it is reported to be a place of total darkness—Egypt. But at the last Institute we were assisted by a number of State workers, a professor from Champaign, and several other gentlemen, who, when they went away, said they had seen no better institute than we had last fall in Massac county. The first Institute was very scarcely attended. Very few persons could be induced to go there. It was a new question, and it seemed to strike their minds as a teachers' institute, and did not understand it was for the general public. The second Institute held a year ago last fall was better attended. Our last Institute called for enconiums. It was largely made up of home material. We believe that you will find no county in the State that is developing more rapidly than ours. We have become somewhat interested in stock culture, and all these questions were brought out, chiefly discussed by home talent.

McHenry County:—

Mr. A. C. Thompson, Huntley: The McHenry Farmers' Institute was held at Harvard, January 31, February 1 and 2, 1900. Considering the extremely cold weather, the attendance was very good. The eight sessions averaged fully four hundred each. The two evening meetings were very full, many stood up all the evening, and large numbers went away who could not get in. The meetings were very interesting, especially on the evening of February 1st, more than one hundred stood up till the meeting was adjourned, lasting from 7:30 until nearly 11:00, and none left the hall.

McLean County:—

Mr. S. Noble King, Bloomington: We had in our county a very successful Institute. One of the best features of the Institute was the devoting of the afternoon of the second day to the ladies domestic science association. I heard from all sides it was the most entertaining afternoon or session of the whole meeting, and I would suggest that the large counties in the State adopt some rule of that kind. We had in connection with our Institute a very fine exhibit of grain, not second to any exhibit that I have ever seen in the State. Another very gratifying thing in our Institute was the great number of young men and women who were practical farmers in the county that came out this year, and I hope that will be the case in the adjoining counties.

Montgomery County:—

Mr. Ed Grimes, Raymond: The Montgomery County and Eighteenth Congressional District Farmers' Institute was held Dec. 12, 13 and 14, 1899, at Raymond, Ill., in the north part of the county, where the farmers needed help, and by their presence in large numbers at all sessions, showed a due appreciation of the efforts put forth by the officers for their benefit.

The officers had secured the very best talent both at home and from a distance, and I assure you that no old straw was threshed over. Montgomery county has a reputation of being up to date in Institute work, and if we are to judge by what speakers from a distance tell us, of the work in other counties, and by the hundreds that attended our meetings, the time is near at hand when Montgomery county will rank among the first in Institute work, if it does not at the present time.

The ladies of the county had one entire session, and the success of the meetings was due largely to their presence and earnest work from start to finish. Mr. E. W. Burroughs, Director for the Eighteenth Congressional District, lent us valuable assistance, both by his presence and earnest work; but one good feature was the agricultural fair, an experiment for us, but it proved a great success and was the means of interesting many farmers that had refused to take part, or assist in any manner; but the fair caught them when their wives and children carried away many premiums, all in cash; they began to realize that some one was working for them. Now they want another institute, and we are going to give it to them, for on the 16th of March, 1900, we will hold a township Farmers' Institute at Raymond, and such talent as E. S. Fursman and Mrs. Nellie S. Kedzie has been secured, which insures a success beyond a doubt. We are behind in township organization. I believe that every township should be organized and hold one meeting each year, and thereby bring the work nearer to every farmer, and to this end I am going to lend my best energies.

Ogle County:—

Mr. Amos F. Moore, Polo: We have had 13 Farmers' Institutes in Ogle county and the members of the Experiment Station have made us a visit each year, and we have had a very interesting Farmers' Institute. The ladies have half a day. The discussion of horticultural exhibits, by Prof. Hartwell, have been interesting, and we have had some interesting Farmers' Institutes each year, although it rained.

Perry County:—

Mr. W. T. White, Cutler: Perry county has held Institutes for about six years. At first it was something like up-hill work in getting interest manifested, as we should, to get farmers to take proper hold of it, but am glad to say that except the first year or two, the farmers are waking up and are taking a great interest in it. During the last year we held a two days' session at Pinckneyville, about the 21st and 22d of November. We had a number of State speakers, who gave us good information, and it was well attended and highly enjoyed by all. We also had domestic science represented. They seem to take great interest in that, and especially the ladies were very much worked up over the domestic science feature. There is one thing down there that we have to complain of, if complaint may be made, and that is our State Experiment Station especially. Their experiments are not specially adapted to our part of the State, we being so far south. All their experiments must be taken with some consideration of the difference in localities.

Saline County:—

Mr. H. S. Anderson, Harrisburg: We held our second annual Institute on November 8, 1899. When I say we had an interesting meeting, I am faintly expressing it. We were favored with the presence of some of our State officers, and they rendered very valuable assistance, and we could depend largely upon our local talent. While the attendance was not near what it could or should have been, I am very much gratified. I sincerely hope that those who failed to attend will attend hereafter. I think we can report that the general interest among our farmers is not what it should be. We think we can report progress, as most of our farmers are taking up the work and will not stop short of success.

Sangamon County:—

Mr. Chas. F. Mills, Springfield: Sangamon county has the banner Institute of Illinois. We have in Sangamon county not only a first-class County Creamery Products Association that goes around in various townships and holds meetings from time to time, but we have a County Butter-makers' Association that is composed of ladies of this county, and the exhibits we have held for the last few years have been not only of very great benefit to

the members, but to all the dairy interests in the State. In connection with our Institute we held a very excellent exhibit, not only of the products of the soil and live stock, but of babies. This last year I can prove that we had the finest and largest show of babies that has ever been held in Illinois, and while we are encouraging the matter of domestic science, we certainly want the product of every department of farm life, and it was a very attractive feature. We offered a premium of \$5.00 for the best boy baby under two, and \$5.00 for the best girl baby, and it made such a show as delighted every mother and father there, especially those that got the premium.

Our Butter-makers' Association was organized by our County Institute, holds its meetings during the summer and winter season in every part of the county, and they have a regular picnic of it. We have a very social gathering, and then the entire afternoon is taken up with a discussion about everything that relates to dairy matters.

In addition to that we have a new show, a county horticultural society, and we are arranging for one of the finest fruit shows we have ever had in this part of the State during next fall. We have two of the 20 libraries of the Institute, and in addition to that we have quite a system of circulating reading matter among the farmers. They are devoting great interest to reading.

In addition to that we have free rural mail deliveries. I want say to you that every one of you gentlemen who fails to go home and fails to get out a petition and send it to Congress for rural mail delivery is doing an injustice to his people and home interests. Congress has made appropriation for these rural mail deliveries, and Illinois stands about 11th or 12th in line. We should stand first in line.

Our Farmers's Institute has given great encouragement to the matter of farm telephones, and with few exceptions we have as many telephones among our farmers as any county in the State. That is one of the best evidences of civilization, next to your church. We have a committee on public speakers, not only in our County Institute but in every County Institute in our congressional district.

Our friend Grundy failed to make a report of one of the most important features in Christian county, and I want to call your attention to that, and it was his own motion that brought it about, and that was to appoint a committee not only on horticulture but live stock and every department, so they can go out all over the country and get the very best results that are obtained by any of the farmers, at County Institute meetings, of stock breeders, etc., who will get up and tell about their experiences. These various committees propose to go around and gather up these experiences, and make a photograph as it were, and report it at the next meeting.

Shelby County:—

Mr. W. E. Killam, Tower Hill: Shelby county has held two sessions of the Farmers' Institute under the new law, one on the 18th and 19th of October, 1899. We had rather poor attendance on account, partially at least, of bad weather, the morning being very unfavorable for people going any distance. We had an interesting program, and I think good was accomplished. We find it hard to get the farmers to take the interest they ought in these meetings. The exhibit plan has proved to be a help to us thus far. We are going to hold another session the 27th and 28th days of this month.

Union County:—

Mr. Geo. Barringer, Jonesboro: We had a very successful Institute last fall, and are keeping in line with the progress. I want to say that we are growing, and if you will come down Sangamon county will find us contestants on the baby question.

Wabash County:—

Mr. O. H. Wood: The Wabash County Farmers' Institute has held six successful meetings that have been fairly well attended. We have tried to make them interesting and instructive. Our programs have been gotten up with that in view. One feature we have made very helpful is a local botanist, Dr. Schenck. He has been very thorough in his work looking up and dis-

cussing the many hurtful weeds and plants that are making their appearance on our farms. We have learned to carry all new plants to him for identification, which he does successfully, also insect pests, which he also makes special study of. This feature of our Institute adds greatly to our work. We also make a display of farm products each year, which is increasing in popularity. These are some of the things we are accomplishing. In fact we are making it a Farmers' Institute all the way through.

Winnebago County:—

Mr. W. L. Frisbie, Rockford: We held our ninth annual session in January, and are continually growing, both in interest and attendance, until this last year, when we scarcely had standing room. Two years ago we gave the ladies one half day of our session for domestic science. It created a great deal of interest, and this year we had Mrs. Kedzie there, and she spoke one afternoon. I think that a consolidation of our public schools would be a very good thing. We are supporting schools with two or three scholars. I know a school with two scholars, and yet the school must be supported. Country schools can not be maintained. They can not be kept up to the same level as the city schools; the scholars can not be there. Neither can they be classified. It has been demonstrated in larger cities that the schools can be classified. By a consolidation of the schools, putting the several schools together, you would get a great deal better results with less money.

We never have any premiums; our people do not want them. You can hardly have a funny story told in our Institutes; the people want hard meat.

Woodford County:—

Mr. John L. Maxwell: We held one of the most successful Institutes ever held, on the 17th and 18th of October, and had present our President, Mr. Willmarth, Mrs. Kedzie, who delivered to us, on the evening of the first day, one of the most entertaining, intelligent and instructive talks that we had during the whole of the Institute. We also had with us a gentleman who talked to us upon the kind of a horse that the farmer wants to raise to put upon the market, and bring in the most money in the least time, and that gentleman, I understand, is a man who buys and sells and ships more horses than any man in the world—Mr. Berry, of Chicago—who gives a very entertaining talk upon the horse. The exhibit feature is one that we have maintained in connection with our Institutes, and we find to be very productive. The merchants in the town largely contribute to the prizes, and it adds very much to the interest of the Institute work.

Champaign County:—

Mr. E. E. Chester, Champaign: I am able to say that the Farmers' Institute work in Champaign county has gotten by the day of swaddling clothes. It has gotten by the time of boyhood and girlhood. We held this year two Institutes in Champaign county, and it has been a continuous question of interest in that county for 21 years, so you see we are of age. We had a very successful Institute at Philo, and the people were compelled to go away because they could not get into the house. We held another at Ogden the fore part of this month, and notwithstanding the bad weather we had a very crowded house. In connection with the Institute we had, of course, a domestic science department, and the whole matter was turned over to the ladies of the association for one half day. We had a very profitable and valuable exhibit of corn and butter, and prizes were awarded. There is no town in the county but what will contribute enough, in addition to the State appropriation, to have an institute held in that town at any time.

Knox County:—

Mr. A. Hinckley, Galesburg: The meeting in Knox county was a great success, and the weather being somewhat inclement, it kept a great many away, but we had a splendid program. One of the afternoons was given entirely to the ladies in their domestic science, and the meeting was quite a success all through.

Cass County:—

I will simply state that we held an Institute this year, and this is the third meeting we have had, each with an increased attendance, and the interest was also increased. Our farmers are taking more interest and since our last Institute they have been shown the good that our exhibit has done for them, especially our corn exhibit and contest, and we are going to have a small exhibit of the grains of our county. The premiums were offered by the business men of the city. The attendance and interest has increased, and altogether we think that next year we will have a great deal better meeting than heretofore.

Madison County:—

Mr. Frank Troeckler, Mitchell: We held our Institute at St. Jacobs, Ill., which is a country town. We have found out that the Farmers' Institutes in our county will do a heap better in the small town than in the larger towns. In the larger towns it is the business people that want to know what the farmer will do, but in the smaller towns it is the farmer right there at home. The attendance was good, but when a farmer has to travel 15 or 25 miles he can not always get there. We had a very good program. It rained, but it did not keep the farmers away. We believe the best way to get a good attendance is to have agricultural exhibits.

Wayne County:—

Mr. E. A. Rankin, Fairfield: Wayne County Institute was organized in November, 1895, and has held seven Institutes. The first two were held at the county seat and were moderately successful. The last two years we met at Jeffersonville with good success. We started with an attendance of sixty and closed with a daily attendance of 500, and the interest is growing from year to year. We got up an exhibit on short notice of grains, grass seed, fruit, butter, bread, cakes, jelly, canned goods, and there was a goodly display in each department. We use as much home talent on the program as possible and give one session to the ladies. We have a vice president in each township to work up an interest in his town and report when it wants an Institute. A Domestic Science Association was organized at the last Institute.

Moultrie County:—

Mr. W. L. Rhodes, Sullivan: Moultrie county held its first meeting at Sullivan and it was a very interesting occasion for all who attended.

We had some speakers from abroad and learned much about the Institute work of the State. We think that our people were greatly benefited by the Institute, and we anticipate larger results at future meetings.

President Willmarth here announced that as the hour for adjournment had arrived that the report of the directors of the several districts would have to be omitted but that they should be submitted in writing and would be published in their order in the annual report.

The following reports from the directors were submitted:

IN MEMORIAM.

Charles H. Dolton, director of the Illinois Farmers' Institute for the First Congressional District from February 28, 1897, to the time of his death at his home at Dolton Station, Cook county, Illinois, March 10, 1900. At the regular meeting of the Board of Directors of the Illinois Farmers' Institute at Springfield, Illinois, June 28, 1900, the following resolutions were offered and unanimously adopted by a rising vote:

WHEREAS, Charles H. Dolton, director from the First Congressional District, has been removed by death since the last meeting of the Illinois Farmers' Institute; and

WHEREAS, We are mindful of his long and efficient service to the agricultural interests of Illinois, of his sterling honesty and helpful personal qualities; and

WHEREAS, We remember with appreciation his constant readiness to do at any personal sacrifice that which he believed to be right; therefore be it

Resolved, That in the death of Charles H. Dolton the Institute has lost one of its most earnest friends and the agricultural interests of the State one of its earliest and strongest champions; and be it further

Resolved, That these resolutions be inscribed in the records of the Institute and that an engrossed copy be sent to his family.



Sara Steenberg, Director 3d Dist.



James Frake, Director 5th Dist.

REPORT OF 4TH DISTRICT.

John M. Clark, Director 4th Congressional District, 360 Warren ave., Chicago.

The Honorable President and Members of the Illinois Farmers' Institute:

I regret exceedingly that I am unable to be present at the annual meeting. I take pleasure herewith in reporting for the 4th district. You are aware that few farmers live in the 4th, and for this reason it may seem that little can be said touching Institute work here.



John M. Clark, Director 4th District.

I may say, however, that there is perhaps no place in the State that needs working more. It is surprising that right here in a district noted for intelligence and general information that so little is known about the State Farmers' organizations. It may appear at first sight that this makes little difference, but it does. As many citizens of this State as possible should know that there is such an organization as the Illinois Farmers' Institute; they should be told what its objects are, what it has accomplished and what it aims to accomplish. A city man who could not lay claim to some sort of relationship with a farmer somewhere in the world would get frost-bitten in July, and it is a dismal day when farm topics fail to raise enthusiasm in city people. Books like those containing the report of the doings of the Institute for 1898 and 1899 are a revelation to those who read them, and the importance of farmers' organization as shown therein can not fail to have a beneficial effect. Along this line of imparting information where it is needed and of explaining how State organizations in the interests of the farming communities of this commonwealth pay large returns, is to be found opportunities for Institute

work which is worthy of painstaking endeavor.

Respectfully submitted,

JNO. M. CLARK.

IN MEMORIAM.

Charles J. Lindemann, Director of the Illinois Farmers' Institute for the Seventh Congressional District from February 28th, 1897, to the time of his sudden death at Springfield, Ill., September 27th, 1899.

At the regular meeting of the Board of Directors of the Illinois Farmers' Institute, February 27th, 1900, at Springfield, Illinois, the following resolutions were offered and unanimously adopted by a rising vote:

WHEREAS, Charles J. Lindemann of Chicago, late Director of the Illinois Farmers' Institute, was called from a wide field of usefulness by death September 27th, 1899; and,

WHEREAS, our deceased friend and esteemed co-laborer up to the date of his death proved himself to be a very efficient and useful member of this organization; and,

WHEREAS, the Institute work of the State, by the death of our worthy associate, has been deprived of the services of an efficient director; therefore, be it

Resolved, That the Illinois Farmers' Institute esteem it a privilege and duty to bear testimony to the sterling character, public spirit and efficient services rendered by Mr. Charles J. Lindemann, and with whom we have so pleasantly associated for years past.

Resolved, That we extend to the family and friends of the deceased a full measure of sympathy, in the death of our friend, and that we join with the promoters of our agricultural interests in sincere regrets at the death of a colaborer, in the early years of a useful life.

Resolved, That a copy of these resolutions be spread upon the records of this Board, and a copy of same be sent to the family of the deceased.

REPORT OF 8TH DISTRICT.

C. D. Bartlett, Bartlett, Ill.

To the Members of the Illinois Farmers' Institute. Ladies and Gentlemen:—The institutes of the Eighth Congressional District just closed have been a marked success in every respect, every county holding from five to nine sessions. The only obstacle in the way at present is to secure a room large enough to hold them.

Counties offering premiums for farm products have interested the farmers as is shown by the large exhibits.

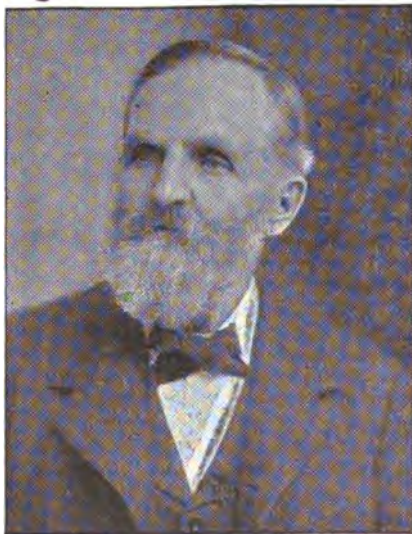
The best speakers in our district spoke off-hand and did not use manuscript, consequently have nothing to add to the report.

Yours respectfully,

C. D. BARTLETT.

REPORT OF 10TH DISTRICT.

J. H. Coolidge, Director, Galesburg, Ill.



Amos F. Moore, Director, 9th District.

Mr. Chairman:—Well managed, successful and profitable institutes were held in each county of the 10th district. One of the encouraging features of the work is the growing interest being taken by the younger people of the various localities where the institutes have been held; this promises much for the future development of agriculture. A great deal of interest was manifested in the several counties in the award of the scholarships in the College of Agriculture. From the many inquiries and applications 8 awards were made, being two more than the number of counties in the district. These surplus scholarships were assigned to other counties that had no applicants. It is expected that these young men will create an enthusiasm for agricultural education in the communities in which they live and that the number of students at the College of Agriculture at the University of Illinois, from the 10th district, will increase from year to year.

Respectfully submitted,

J. H. COOLIDGE.

REPORT OF 11TH DISTRICT.

G. A. Willmarth, Seneca, Ill., Director.

MR. CHAIRMAN, LADIES AND GENTLEMEN OF THE ILLINOIS FARMERS' INSTITUTE:—I can assure you that it gives me very great pleasure indeed to be able to report the County Farmers' Institutes in the Eleventh Congressional District without exception in excellent condition and meeting the expectations of the progressive farmers that attend the sessions in numbers limited only by the capacity of the largest obtainable halls.

The officers of the County Institutes in the Eleventh Congressional District have put forth energetic efforts and spared no pains or labor to make the Institute meetings in every particular a grand success.

One of the drawing features of the Institute is the premiums offered on farm products, fruits, pantry stores, dairy products, poultry, etc.

These exhibitions, held in connection with County Farmers' Institute meetings, attract the attention and secure the presence of many who might not otherwise be interested in the instructive papers and discussions presented.

In summing up the Farmers' Institute work in the Eleventh Congressional District, I am indeed pleased to say that in my opinion it has been a great success, such as is always sure to come and is the reward of hard successive labor.

Respectfully submitted,

G. A. WILLMARTH.

REPORT OF 12TH DISTRICT.

F. I. Mann, Gilman, Director.

The most successful Institute ever held in the district, and probably the largest attended Institute ever held in the State, was the Congressional Institute held at Joliet January 11th, 12th and 13th, 1900. The speakers were all from within the district and handled their subjects in an able manner. The average attendance was about fifteen hundred, and mostly farmers and their families.

Though Kankakee county was without an Institute for several years, it has again fallen into line through the efforts of the able President, and held a very successful Institute at Manteno the last week of January. Their interest is now so manifest there is no danger of a relapse.

The Vermillion County Institute held an unusually good session and is well supplied with enthusiastic workers.

Iroquois county held its fourteenth annual Institute at Clifton in January. Though held in a rainy time it was well attended and the interest was intense. Premiums were awarded on horses and stock, as well as grains.

Throughout the district there is strong interest in Institute work, and the Institute movement is gaining strength with each new stride.

F. I. MANN.

REPORT OF 13TH CONGRESSIONAL DISTRICT.

S. Noble King, box 226, Bloomington, Ill., Director.

MR. PRESIDENT, LADIES AND GENTLEMEN:—I take pleasure in submitting the following report of the Institute work in the 13th Congressional District during the winter of 1899 and 1900.



S. Noble King, Director 13th District.

This district is composed of the following counties: Douglas, DeWitt, Piatt, Ford, Champaign and McLean.

In Douglas, DeWitt, Ford and McLean there was held very successful meetings with very fine exhibits of grains, vegetables, dairy and pantry stores.

In Champaign county they held two good Institute meetings with a good exhibit of farm products at both meetings.

Champaign county Institute workers have been holding their meetings at different places in their county. I think it a very nice arrangement in a large county. In this way the different neighborhoods will get the benefit of the Institute, and I think it will not be long until each of the towns in the county will have a Farmers' Institute of its own. Owing to small-pox scare in Piatt county the Institute meeting was postponed from January 25th and 26th to March 21st

and 22d. This meeting being held so late in the season it was not so well attended as the other meetings, but they had a very pleasant meeting and much interest was shown in the good works of the farmer and in some of his mistakes.

One of the encouraging features of the meetings in the district this year was the increased attendance of the young farmers of the different counties and the very extra fine display of farm products, Douglas county leading in number of exhibits, having seventy-five entries of corn alone.

At each of these Institutes the program for one afternoon was furnished by the ladies.

S. NOBLE KING.

REPORT OF 14th DISTRICT.

Oliver Wilson, Magnolia, Ill.

There are six counties comprising this district, and during the year there was an Institute held in each. These Institutes are all conducted on business principles, discussing those subjects that directly affect the farm and farm home, and especial care is taken to not only interest the young and secure their attendance, but they are made to feel that the success of the Institute depends on their exertions, and it is but fair to say that when placed on the program these young farmers never disappoint us, but are clear and comprehensive in the presentation of their subject. I believe that special care should be given by all who have the management of Institutes to see that the younger class are not only represented on the program, but on the executive boards as well.

Our district meeting was held at Canton, in Fulton, and it was a decided success, the entire district was represented on the program, making it in reality a district meeting.

Our Institute season covers from the middle of October until the first of January.

OLIVER WILSON.



Oliver Wilson, Director 14th Dist.

REPORT OF 15TH DISTRICT.

G. W. Dean, Adams, Ill., Director.

Hon. G. A. Willmarth, President Illinois Farmers' Institute.

G. W. Dean, Director 15th District.

Dear Sir:—I have the honor of submitting the following report of the Institute work in the 15th Congressional District for the fall and winter of 1899 and 1900.

The first Institute was held at Mt. Sterling, Brown Co., Nov. 9 and 10, 1899. The meeting was enthusiastic and largely attended and the discussions brought out new features in stock breeding, fattening cattle for market, agriculture, horticulture and dairying.

Adams county held a three days' meeting, Nov. 16, 17, 18, and invited the president of each County Farmers' Institute in the district to be present and preside one session, with an opening address. This was an interesting prelude to the opening of the session. Wheat, corn, and clover culture, farm, garden, raising and selling stock, the construction of a silo and silo as a feed, were among the subjects especially discussed. The question box brought good points. She held two Institutes this year. The ladies are well organized and one session was devoted to domestic

science.

Hancock county held their meeting at Boen, as she is especially adapted to corn. She made corn culture prominent, while other topics incident to a rural district were enthusiastically discussed.

She held a second at Hamilton, in February, both of them being well attended, which evidently shows that changing location is profitable.

Henderson county followed with the next Institute, at Media. The change of location gave a great many an opportunity to attend who had never been at an Institute before. Perhaps we can better express the interest manifested by stating that on account of the many people present they changed the meeting from the academy to the church, in order that more might be accommodated. They organized a Domestic Science Association.

Schuyler being interested more or less in cattle feeding, made that one of the prominent features. The county not being very large, they can get together at Rushville with almost all sections represented. They had good attendance and interesting meetings.

McDonough county held two Institutes, one in the fall, at Blandinsville, and the winter meeting at Bushnel, in February. At both the agricultural interests were well represented. The merchants of Bushnel offered liberal premiums for the products of the farm, garden and domestic articles, which brought out a good display. It was held in the college building, and the professors, following the lead of the president, gave valuable assistance. The students gave their presence as often as possible, and departed themselves as to recommend the institution as a good place for the normal training of the boys and girls of the farm. This county has a good domestic science organization.

Warren county has always held her Institutes at Monmouth, with large audiences and interesting programs, and is alive to the interests of agriculture, as their well improved farms indicate. Next year her Institute will be held at Roseville, Dec. 13, 14 and 15, 1900, and the district has given her the Congressional Institute.

Respectfully submitted,

G. W. DEAN.

REPORT OF 17TH DISTRICT.

Col. Chas. F. Mills, Springfield, Ill., Director.

Mr. President:—The late Farmers' Institutes in the 17th Congressional District were held as follows:

County.	Place.	Time.
Christian.....	Taylorville.....	December 12, 14, 15, 1900.
Logan.....	Lincoln.....	December 7, 8, 9, 1900.
Macon.....	Decatur.....	February 7, 8, 9, 1900.
Menard.....	Petersburg.....	January 16, 17, 1900.
Sangamon.....	Mechanicsburg.....	October 17, 18, 19, 1900.

The programs of the above Institutes were, without exception, of a very high order of excellence and covered the up-to-date topics of especial interest to the progressive farmers and their wives and children.

The meetings were largely attended and unusual interest was manifested in the reading of the papers and discussions following.

Large and creditable exhibits of farm products and pantry stores were held in connection with each Institute, and the fine specimens and samples of grains, seeds, fruits, vegetables, etc., added much to the interest of the several occasions.

The increasing interest in dairy matters was evinced by the large number of entries of butter of good quality, much of which scored high.

The increased attendance at the meetings, of the wives and children of farmers, was noticeable and added much to the deep interest manifested in these enjoyable occasions.

The organization and successful management of Domestic Science Associations in the several counties has much to do with the large attendance and growing interest in the meetings of the County Farmers' Institutes.

All of the county Institutes in this district have appointed standing committees on the improvement of the public roads and other matters in which every farmer is interested.

The consideration of said matters by interested committees and the discussion of the reports to be submitted at the next annual meeting by said committee, can but enlarge the field of usefulness of County Institutes and add much to the fund of practical information relating to the daily life of the farmer and each member of his family.



Chas. F. Mills, Director, 17th Dist.

The Congressional Farmers' Institute for this district was held at Taylorville, under the auspices of the Christian County Farmers' Institute. The meeting was a credit to the district and each county was well represented.

The Congressional Institute demonstrated its great usefulness in bringing together the leading workers from the several counties in the district.

The session of the Congressional District devoted to Domestic Science was the most interesting and instructive meeting of the series and demonstrated the rapid development of the practical usefulness of such organizations.

The organization of County Domestic Science Societies has been completed in this district, and the ladies, with characteristic interest in all good enterprises, will soon make their programs the chief attraction of the County Farmers' Institute meetings.

CHARLES F. MILLS,

REPORT OF 18TH DISTRICT.

E. W. Burroughs, Edwardsville, Director.

Mr. Chairman:—This district consisting of six counties has held an Institute in each county during the past year.

Fayette at Vandalia in May, Shelby at Shelbyville in October, Moultrie at Sullivan, Bond at Sorento and Madison at St. Jacob in November. They were all good meetings.

In some instances the largest hall in the town could not accommodate the crowd which had gathered at some of the sessions. It is a very noticeable fact that in counties and localities in which Institutes have been held before. The attendance is much larger than where the meetings are new to them. This fact convinces me that it is advisable to hold the County Institutes in different parts of the county each year.

Also in some of the counties we have adopted township organization, as it were, that is, appointed a township vice-president who is expected to hold one or more township meetings annually and talk up and advertise the county meeting. I find great good is resulting from township Institutes held in country school houses.

Three of our counties had displays of farm products and pantry stores which were very instructive and did not interfere in any way with the Institute program.

In December we closed the season's work by holding our roundup at Raymond in connection with the Montgomery County Institute.

It was a fitting close, a grand meeting, with a daily attendance of nineteen hundred, (1900).



E. W. Burroughs, Director of 18th Dist.

The success of the County Institutes is due to the county officers securing the best of speakers, both foreign and local, on topics of which the locality in which the meeting was held were interested, creating much enthusiasm.

The ladies are becoming very much interested in the Institute work and are assigned places on the program. Nearly every county has a domestic science association. The boy and girl is not forgotten and has a place also.

The Institute free library is circulating in our district and from reports the books are being eagerly sought after. In one locality farmers wanting *some* books are compelled to register their names several weeks in advance in order to secure them. Another has a second application filed.

The 18th district is well organized, is doing good work, advancing all along the line, and will not rest until it gets to the head of the procession.

Respectfully submitted,

E. W. BURROUGHS.

REPORT OF 19TH DISTRICT.

D. H. Shank, Paris, Ill., Director.

Mr. Chairman:—The Nineteenth District comprises the nine counties, Clark, Coles, Crawford, Cumberland, Edgar, Effingham, Jasper, Lawrence and



D. H. Shank, Director 19th District.

Richland. Each of these nine counties has now a permanent organization, and hold annual meetings. The officers when elected strive to learn their duties and to perform them. The Institute is made attractive as well as profitable. The young men and women are interested and find these meetings a source of pleasure as well as profit.

The meetings this year have been well attended, but it is a source of regret that more of our farmers are not interested enough to attend, but we must make these Institutes so good that farmers can not afford to miss them. —

Domestic science associations have been formed by Mrs. Rose Carr and much interest has been shown, and much good must result from this branch of our work. All of our programs should provide sessions for the special benefit of the wives and daughters of the farmer.

In our Institutes we devote one session to the subject of education. We find it very beneficial to have

our district and high schools to take a part in the program.

As yet we have not done much towards organizing township Institutes, but believe, as soon as district and county Institutes become properly organized, township organization is sure to follow.

Our work in the 19th district the past year has been eminently successful. Much good has been done. We hope to make the Farmers' Institute one of the leading educational factors of our district and State.

D. H. SHANK.

REPORT OF 20TH DISTRICT.

L. N. Beal, Director, Mt. Vernon.

The Farmers' Institute work in the 20th district is in excellent condition. Each of the ten counties of the district held Institutes as follows:

Wayne.....	October 23, 24, 1899.
Clay.....	" 25, 26, 1899.
Wabash.....	" 26, 27, 28, 1899.
Gallatin.....	March 28, 29, 1900.
Hardin.....	November 2, 3, 1899.
Franklin.....	" 14, 15, 1899.
Jefferson.....	" 15, 16, 1899.
Hamilton.....	" 16, 17, 1899.
White.....	December 12, 13, 1899.
Edwards.....	13, 14, 15, 1899.



Waler R. Kimzey, Director. 21st Dist.

while Hardin county held a good Institute at Cave-in-Rock. The next week was Franklin, Jefferson and Hamilton counties. These three held the best Institutes in the district as to attendance and exhibit, in Franklin and Hamilton, we lacked hall room, and as to exhibit in Franklin and Hamilton, they just could not be excelled. The interest was very marked on account of it and as long as the exhibit does not detract from the regular program of the Institute they are all right, but it is well to keep the exhibit within bounds and not run the Institute into an exhibition and show. The next week of Institutes were White and Edwards. The former held a good meeting, with nothing in the way of a show of farm products. The Edwards county round-up was mentioned before, as also the postponement of the Gallatin County Institute.

This year we have two Institutes a week, which will make the Institute work five weeks for the district, at a time of year when preparation should be made for the winter and will take much valuable time off the director.

We are pushing the work all along the line, and as we gain experience and information as we go along in the work, we expect to improve in the Institutes coming this fall. So be it. Respectfully submitted.

L. N. BEAL.

* Postponed from October 31 to Dec. 1, 1899, and held as noted.

The meeting in Edwards county was the district round-up meeting and was fairly well attended. The only drawback was a snow storm, the first of the season, and many were kept away on account of it. The court room was nicely decorated and the music was good and every thing passed off well.

Wayne, Clay and Wabash counties held in the same week, and were good meetings. Each held an exhibit of farm products in the room where the Institute was held, except Clay. Their meeting was on ground floor of a new storeroom and the exhibit was in rooms above, and was largely fruit and chickens; fine chickens in abundance. In Wabash county I must commend the committee on decorations; they made the court room look very attractive after they fixed it up with flags and bunting. Most of them are grangers, and if you want to see a good Farmers' Institute go among grangers.

The next week Gallatin and Hardin, the former postponed to later date, while Hardin county held a good Institute at Cave-in-Rock. The next week was Franklin, Jefferson and Hamilton counties. These three held the best Institutes in the district as to attendance and exhibit, in Franklin and Hamilton, we lacked hall room, and as to exhibit in Franklin and Hamilton, they just could not be excelled. The interest was very marked on account of it and as long as the exhibit does not detract from the regular program of the Institute they are all right, but it is well to keep the exhibit within bounds and not run the Institute into an exhibition and show. The next week of Institutes were White and Edwards. The former held a good meeting, with nothing in the way of a show of farm products. The Edwards county round-up was mentioned before, as also the postponement of the Gallatin County Institute.

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REPORT OF 22D DISTRICT.

H. G. Easterly, Director, Carbondale.

MR. CHAIRMAN:—The Farmers Institutes in this Twenty-second district are in their infancy compared to other districts. Nevertheless good institutes were held in all counties. While the attendance was not large, the interest manifest was all that could be desired. Institutes were held in the following counties: Union, Pulaski, Pope, Johnson, Saline, Williamson, Massac and Alexander.

Johnson county held its first Institute. The interest was so great we found difficulty in getting a hall large enough to hold the meeting. This was due to the energy of the local officers and home talent. President Willmarth was with us at this meeting and added greatly to its success. Massac county had a fine exhibit of farm products. The attendance and interest was so great that they voted to hold a three days' session next year.

Union county held its first Institute. The attendance was rather small, but indications point to a much larger meeting next year.

After much delay and the overcoming of many difficulties, Alexander county held its first Institute February 1st and 2d inst. This proved a success, with prospects for a bright future. The congressional meeting was held at Marion with Williamson County Institute. This was an interesting meeting, due very largely to the use made of home talent, especially ladies. This county also had a fine display of farm products. I believe the time is not far distant

when, with our improved facilities for acquiring knowledge, the farmers and their families will be equal to or even surpass their city friends in the enjoyment and practice of social culture and genuine refinement.



H. G. Easterly, Director 22d Dist.

H. G. EASTERLY.

AFTERNOON SESSION, FEBRUARY 20.

The exercises opened with a song by the Clover Leaf Quartette of Wayne county, after which Mrs. Nellie S. Kedzie was introduced by Mr. Willmarth as the presiding officer. Prayer by the Rev. H. B. Douglas, was asked, as follows:

We look to Thee, our Heavenly Father, once more, and pray for thy infinite blessing to descend and rest upon this gathering; we thank Thee, our Father, for these cheerful voices; we thank Thee for these happy faces, which have come to us from the homes beyond our own limits, coming as strangers to our city, and to our community, to help us to lighten and to lift up our homes, and make them brighter and better and happier, and more like unto the home which we are traveling to. Our Heavenly Father, we pray for a blessing upon all that may be done this afternoon; we pray Thee to bless

these mothers and these wives, and these sisters, who bear such heavy burdens in the homes, wherever they may be found, whether in city, town or country, upon the farm. We thank Thee, oh Lord, for the great and noble men and women, in the farm homes, struggling and striving for the affairs of this life; struggling and striving to maintain their homes and their interests, to educate their children, and to prepare them for future life; we thank Thee, oh Lord, for the mothers, and we thank Thee for the mothers' tender work, and we thank Thee for the mothers' helpfulness in all walks of life, and especially in our farm home life. We pray a blessing upon these ladies who have come to us this afternoon, and who are responsible for the work of this session. We pray a blessing upon these people gathered here from all portions of our beloved and great commonwealth. Our Father, we pray now upon the one who shall preside a blessing, and we pray a blessing upon those who shall assist in the exercises of the afternoon. May all be done to the glory of God, and to the honor of his great and loving name. We ask it for Christ's sake, Amen.

The quartette then rendered "My Old Kentucky Home," followed by a vocal solo by Miss Alma Hallowell, of Mt. Vernon.

Mrs. Emma J. Davenport then read a report of the work of the association, as follows:

THE WORK OF THE DOMESTIC SCIENCE ASSOCIATION.

At the meeting of the Illinois Farmers' Institute held at Princeton one year ago, the following resolution was adopted: "Resolved, that we recognize the fundamental importance of Domestic Economy and note with satisfaction the effective work that is being done by the Illinois Association of Domestic Science organized at the last annual meeting of the State Institute; and be it further resolved, that we recognize the work of this Association and of the County Domestic Science Associations that are being organized through its efforts as auxiliary to a part of the Farmers Institute work of Illinois."

In behalf of the Association of Domestic Science I am here to thank the Farmers' Institute for this recognition. We thank you for your kindly interest and for your financial support which have made it possible for us to carry on the work of the year. We feel that we are strong for we are a part of the greatest and most effective Institute organization of all the States. It is right that we should be thus closely affiliated for where is there a business which is so closely connected with the home as is that of the agriculturist? Domestic science means the science of the home and the home in its fullest sense includes father, mother and children. It means then all that is for their best welfare individually and collectively. It does not mean simply the food we eat but it means sanitation, architecture for health, comfort and convenience, and for beauty; it means the care and furnishing of this house and not least of all, the wise expenditure of that mighty factor in all lives—the dollar.

The aim of the association for the past year has been to stimulate an interest in the subject of domestic science throughout the State, and to induce the organization of associations in connection with the Farmers' Institutes. To accomplish this, letters have been sent to each county of the State, stating the objects of the organizations; to aid in bringing about a better knowledge and understanding of this science which pertains to the home, and to establish close relations between the associations and the Farmers' Institutes. It has urged upon the officers of the County Institutes that the ladies be allowed to conduct one session of the meetings. This has met with hearty response throughout the State and nearly every Institute program of which I have knowledge has had one session devoted to domestic science topics. The ladies who have gone out to speak upon this subject—Mrs. Carter, Mrs. Kedzie, Mrs. Dunlap, and others, have all had more calls than they could possibly accept, although they have devoted a large share of the winter to this work. Not only the women but the men, bless them, have shown most enthusiastic interest in this subject.

As a result of this and of the active efforts of many of the ladies, half the counties of the State have organized Domestic Science Associations in connection with the Farmers' Institute. A good number of these associations have appointed vice-presidents for each township in the county and thus have many active local clubs.

To aid in the organization of county associations and local clubs and to give some suggestions and references for lines of study, the officers of the State Association issued a 24-page booklet containing such helps as they were able to give. The generous appropriations of the Institute management made such a publication possible. This seemed to meet the desired end and the issue of 1,250 copies is exhausted. Requests for this booklet have come from Indiana, New York, Georgia and California.

It is with satisfaction that the Association has been able to announce a list of books upon domestic science topics for the use of the domestic science clubs throughout the State. This is the beginning of what we hope may grow to much larger proportions. The literature upon the topics relating to this subject, as to agriculture in general, is new and, as in all subjects the knowledge of which is constantly changing by recent investigation, is somewhat limited. It was the aim of the officers who had the choosing of these books to select within the limits of the appropriation those which might be most helpful to the clubs in their studies, and to this end made as careful review of the volumes as was practicable.

The Association wishes to urge upon the clubs the desirability of the use of books in their study programs and of the U. S. Department bulletins which are free—or nearly so—and contain the newest investigations upon these subjects.

Here again we have to thank the Institute management for making it possible that we should have this beginning of a Domestic Science Library, as well as for those books upon this subject in the circulating libraries of the Institute.

I wish again to emphasize the relation between the Domestic Science Associations and the Farmers' Institutes. This organization was designed particularly for the farmers' wives and daughters. The ladies of the towns and cities are blessed with clubs galore, but the farmers' wives, except the few who live in close proximity, can not avail themselves of these clubs. Besides, while these wives and daughters may and ought to care for literature, art, philanthropy, etc., they in their part of the profession of agriculture have large interests with which the city dweller does not come in contact. It is for these reasons that in organizing the county associations the officers for the most part should be chosen from among the farmers' wives. The Farmers' Institute is an organization to meet the particular requirements of his profession; it is his school, his club where he goes to teach, to be taught and entertained. The Domestic Science Association is designed to be all this to the farmer's wife. The interests of these two organizations can not be separated. The one is already established and the other can not be considered but as a part of it.

To meet the requirements, therefore, of this large and broad profession, domestic science must cover many subjects. It must not be restricted to mean simply *foods*, hygiene, or any other single thing, but it must include all that makes for the health, the comfort, the well-being and the surroundings of the inmates of that highest institution on earth, the home, because it is from this country home that have come and shall come our broadest minded men and women.

During the past year over all the States a great wave of surprise and wonderment has passed at what the State of Illinois has done for its College of Agriculture, and the question is—How did it come about? The answer to this question is that back of it all was the Farmers' Institute. It was an accomplishment of which all may be proud and each individual may feel that he had a part in it.

But the work is only half done. There are as many girls in Illinois as there are boys. More than this, not all boys of this great State—agricultural though it be—will follow the profession of an agriculturist; but the legitimate profession of all women is that of home-making. We have provided courses of instruction where our boys may fit themselves for any of the professions—mechanics, architecture, law, medicine, the sciences and agriculture; but the one great profession which all of our girls will ultimately follow,—that one which makes or mars her whole future—not only hers but those about her, even down to future generations—is unprovided for.

Will not the Farmers' Institute join with the Association in using every legitimate means in bringing about the establishment of a Department of Domestic Economy at the University of Illinois? May we not ask that when the Building for Agriculture, of which all are justly proud, is dedicated at the opening of the next school year—that with it shall be dedicated also a Department of Domestic Economy?

Mrs. S. Noble King then read a paper on circulating libraries, as follows:

CIRCULATING LIBRARIES.

From the founding of the first American library in 1731, through the efforts of fifty public spirited young men in Philadelphia, to the building of the magnificent Library of Congress at Washington, the library movement has kept pace with other lines of educational work for people living in cities, but it is only recently that active measures have been taken towards giving to the residents of small villages and rural districts the free use of good literature.

Many persons of large means and philanthropic purpose, realizing what a boon to the poor especially a public library is, have made generous provision for the intellectual needs of their people by building and equipping a library for their use. Conspicuous among these are the Lenox Library of New York City, the Carnegie Library of Pittsburgh, and the John Crerar and Armour Institute Libraries of Chicago.

That opportunity brings responsibility was the dominant thought of that great man, who recently passed beyond the activities of this life, he who has been accorded first place among English writers of the last two centuries, artist, poet and seer, with genius and wealth, he yet believed the highest living to be that which he shared with others less favored. He gave his art treasures to museums for the benefit of the common people, that workers in iron, in linen and in tapestry might have classic models before them, and so learn to design articles of beauty. He also gave to the public schools of London rare paintings, to cultivate a taste for art. In fact, all of his great wealth, which amounted to millions, except enough to supply his simple needs, he used in bettering the condition of the working people of England, and by them the name of John Ruskin will ever be held in reverent esteem. While we have not the talent nor the wealth that this great man possessed, we all have some opportunity of helping our fellow-men.

A few weeks ago I chanced to be in a town in central Illinois, a town with a population of about 2,000; and I was greatly interested in the library and the work of the librarian. She was a lady who was reared on a farm near this town, and after her marriage continued to live there. When her sons and daughters were settled in homes of their own, instead of persuading herself that her lifework was finished, she determined to devote herself to something that should be of permanent benefit to the people with whom she had been acquainted for many years. Through her efforts a library was established, and for two years she acted as librarian without salary.

Although the reading room is open but two afternoons and evenings each week, there have been, within the past three months, 238 registered readers, and 610 books issued. When asked if farmers' families used the library, she replied, "Yes, but not as much as they would if we could make it free," and then added: "Our hopes rest on the travelling library, until our Legislature shall pass a law making obligatory the levying of a small tax for the support

of libraries." As I watched the fine faces of some of the young men who sat at the reading tables, and the boys and girls who came and went with their books, each with a smile and a pleasant word for the librarian who was also a personal friend, I thought that many of them would, in after years, trace their first inspiration for higher and nobler life to the influence of this woman, who loves her fellow men.

As illustrating the value of a library to boys who have little home care, I witnessed an incident in the Bloomington library a few days ago. There is a reading room set apart especially for the use of children. It is furnished with small chairs, an open case of books, and the walls are covered with pictures. On Saturday and on other days after school, this room is well filled, but on this particular day I went in about noon and was surprised to see six or seven boys intently reading. On inquiry I learned that they were all out of school for reasons that were obviously unpleasant to them, to speak of, but as they were strangers to the personal care that is regarded necessary in even a moderately well regulated family, I was impressed with the influence that had drawn these boys out of the alleys into that quiet room where the whole atmosphere was evidently so unlike anything they were accustomed to at home.

The circulating library has been introduced into many states and has been provided for in various ways. The Women's Clubs in our own State, as in others, have done considerable work along this line, and in every case the work has approved itself by results. The Womens' Clubs of Chicago, Oak Park, Edgewater, Elgin, Champaign, Princeton, Quincy, Paxton, Bloomington, and the Kane County Federation of Women's Clubs are among those that are engaged in sending out libraries. Doubtless many other clubs are doing the same.

It is of especial interest to us that the State Farmers' Institute has already shown itself in favor of this work by sending out, within the past few months, twenty libraries of its own, and the applications for them have greatly exceeded the present supply. These books have been sent only into country districts, while those sent out by the Womens' Clubs have generally been sent to clubs or schools in small villages.

In Missouri this work has been started by the Federation of Women's Clubs. The same thing has been done in Kentucky and libraries are already in circulation in the mountain districts. In Minnesota there have been two centers for traveling library activities. The Northern Minnesota Traveling Library Association was organized under the auspices of the Women's Clubs of Duluth, and the other under the auspices of the Minneapolis Public Library, and it is believed that the extension of the system to the mining regions of the north will have far-reaching effects.

In Wisconsin the Library Commission has issued a general circular asking contributions of wholesome and popular books, magazines, illustrated papers and children's periodicals, to be used in supplying isolated farming communities, country schools and logging camps with good literature. In one small district school was found a worn out copy of the "World's Fair Number" of the Youth's Companion, of which it was said, "The thumb-edged and soiled paper were eloquent of an unsatisfied hunger for the marvels of beauty, art and nature of the great outside world."

Away down in Alabama the Federation of Women's Clubs has taken up this work, although several years ago Miss Tutwiler, of Livingston, in that state, sent out three libraries containing 50 books. Her plan was to give them into the charge of girls who go out to teach in neighborhoods where most families have no books except a bible, almanac, and perhaps a small dictionary. In speaking of it, she said, "Some of the young girls have taught in school houses where there were not only no blackboards, nor desks, but no windows, the house being lighted in summer by the large cracks and the open door, and in winter by the pine fire on the hearth." Who can question the value to such a community of a library of genuine children's books? Even Georgia is catching step in this work, and in Bibb county seven cases of books have been put in circulation, the books having been paid for by the teachers and pupils.

We find that in some parts of our own State much enthusiasm exists among teachers and pupils, and many district libraries have been obtained through their efforts. Some times it has been accomplished by giving literary entertainments at the school house, and some times by basket socials. In some instances the directors have aided in securing a library.

The report of teachers as to the influence of these books is very satisfactory. These libraries are usually well selected, the books being chosen from a list prepared by our leading educators, but it some times happens that a book peddler, with a "ready-made" school library imposes upon unsuspecting directors, as lately happened in a county in our State. A pleasant talker approached the directors with an offer of a very good looking bookcase "that would be an ornament to the schoolroom" and sixty books in uniform binding for \$50." After the library had been paid for and the agent had gone, it was discovered that thirty-eight volumes out of the sixty were devoted to the cultivation of the "Osage Orange Hedge."

Last November the State Superintendent of Public Instruction reported that in about forty per cent of seventy-five counties there was considerable activity in the matter of school libraries, but the sixty per cent of schools in the counties where the interest is awakened and the twenty-seven counties where the library spirit has not yet penetrated are the localities that need the circulating library. While the work done by Women's Clubs, Farmers' Institutes and by teachers and pupils is grand work, and deserving of all praise, it is necessarily too limited in its scope, and we should have an appropriation by our Legislature that would help to send good books into the most remote district. It may be urged that circulating library work having so many centers would lack the system necessary to success, that it might be duplicated in some localities, and lacking in others, but that difficulty would be overcome by a federation of these workers.

New York was the pioneer in giving state aid to traveling libraries. Michigan followed second, and Iowa third. Now Ohio, Indiana, Minnesota and Kansas are added to the list. The first traveling library in the United States was started in New York in May, 1893, and consisted of 100 books. In May, 1898, there were in circulation 1,650 libraries, having 73,000 books, and today there are in the United States 2,500 libraries with 110,000 books. The spirit that inspires this work seems to be in the air. The Louisville & Nashville Railroad Company have offered free transportation for traveling libraries, and only the other day I heard of a young railroad man at Fort Madison who carries his papers and magazines out to people living along his route, some of whom live in a box car.

The Ohio State Library Commission adopted the policy of making the state library free to every resident of the state, and in order to reach the people at a distance from the capitol, the traveling library was decided upon. No appropriation had been made by the legislature of the state, and the libraries were to be made up of books already on hand. The newspapers throughout the state gave notice of the proposed movement, and letters of inquiry came pouring in. Quick to see the advantage of traveling libraries to the work of club extension, committees at once organized clubs in small towns and villages, and, as a result, in less than three months twenty clubs in as many different parts of the state were reading, studying and enjoying books from the state library. Still the rural districts were not heard from, and the next step was to interest the farmers. This was done through the agricultural papers of the state, and now they too are using the books. For two years they have received state appropriations of \$4,000 per annum, but the work is growing so rapidly that they will ask to have it increased to \$6,000. The first year they sent out 62 libraries, the second year 379, and the third 445, with a total of 24,000 volumes.

A few months ago it was my privilege to visit our State library, in the State House at Springfield. This was established in 1839 by an act of the legislature, the primary object being to found a reference library for the use of the State officers and the Legislature. The first appropriation was \$5,000. Since that time it has been from \$1,200 to \$1,500 annually. From time to time other books than reference books have been added, until there are now 40,000 volumes, 20,000 of which are of interest to the general reader, includ-

ing works on history, biography, travels, science, poetry and fiction. The people are admitted to the reading room, but only State officers and employes are permitted to take books away. As I looked at the carefully arranged books, I was reminded of the old-fashioned parlor which held the household treasures, to be used only on state occasions, and then with certain restrictions, while the rest of the house might be meagrely furnished, but considered quite good enough for the every day needs of the family. Conditions in home life have changed, and the best room is no longer closed, but it is the living room, the center of all that is tender and true, the heart of the home.

As I thought of the homes in our State that have not to exceed twenty-five books, and of other homes in which there are none except the children's school books, I longed to see a way opened by which those books, paid for by the taxpayers of the State, could be made available to those who need them. Where newspapers, magazines and books are a part of the daily living, it is difficult to realize that within half a mile are homes where such things are unknown, but it is not an exaggeration to say that there are homes and homes in our State where there are no books and papers. Only last week I called on a family living on a farm where there were five boys whose ages range from seven to twenty-two years. During the conversation I said to them, "Boys, how do you spend your evenings?" and one boy of nine years replied, "Oh, just in talking and playing," while an older one, with a wistfulness that was pathetic said, "We haven't anything to read except a Bible, and that is nearly torn up." Those boys were hungering for something that would afford entertainment or instruction.

Within a day or two they received a package containing newspapers, magazines and two books, one selected for the two younger boys and one for the eldest, who is quite a mechanical genius. The following evening the father, mother and the five sons were reading, content and happy. It is for such as these that I would like to see our State Library used with such other books as circumstances and conditions require. Special libraries bearing on certain lines of work could be made up for the use of study clubs. Let there be books for the little ones, of four or five years, who can not read, but who enjoy having stories read, and who will ask to have them repeated again and again, particularly if it touches their sympathy. The characters become their friends and companions and help to people their little world.

Black Beauty has been called the "Uncle Tom's Cabin of the animal world," and it is doubtful if any boy can read it without being more kind to domestic animals. Give the children such books as The Bird's Christmas Carol, Little Lord Fauntleroy, the Alcott and Pepper stories, Life in the Days of Cicero, Two Arrows, Flamingo Feathers, Citizen Bird, Four-footed Americans, Little Folks in Furs and Feathers, the Henty books, and many more that will open up a new world to the boys and girls and teach them to see wonders and beauties all about them in objects that had before seemed only commonplace, if noticed at all. Nor would we ask for these libraries for farmers more than for people living in small villages, or in towns where there are no libraries.

The general use of the State Library and an appropriation by our next legislature for traveling libraries is a subject that deserves the thoughtful consideration of all who are interested in the future of our State, and we confidently hope that every county Farmers' Institute will use its influence toward establishing this great work. For the sake of our young people we ought to have it, and we can have it if we will. The Legislature has shown a willingness to make appropriations when they are to benefit the great mass of the people, and as we have a free educational system by which the children of the poor have equal advantages with those of the wealthy, that work should be supplemented by placing in the homes of those children literature to correspond with the work done in the school room.

We are justly proud of "the great State of Illinois," but let us see to it that so far as we are able to accomplish it, her greatness shall consist in the intellectual and social advancement of her sons and daughters, remembering that ideas are the pioneers of progress.

Professor Talbott then made an address upon Sanitation for Country Homes, as follows:

SANITATION IN TOWN AND COUNTRY.

By Arthur N. Talbott, Professor of Municipal and Sanitary Engineering, University of Illinois.

It would be impossible, without trespassing too far upon your patience, to do more than briefly review the field of sanitary science, and you will, I am sure, excuse me if I do nothing more than outline some of the methods of sanitary science and some of the results of sanitation, as applicable to both town and country conditions. The field is broad, involving, as it does, the investigations and the application of physics, biology, chemistry, medical science, etc., together with the arts of the engineer and the hydraulician. Sanitary science, as such, includes all of these, and may be said to embrace those principles and methods by which the health of a community is promoted and the spread of disease prevented. Necessarily, also, sanitary engineering includes certain utilities which serve purposes of convenience and comfort as well as of sanitation.

"Pure air, pure water and pure soil," a precept formulated by Hippocrates more than 2,000 years ago, still expresses very fully the requirements of sanitary science. If to this be added pure food, and not proper food (since the latter belongs to the realm of hygiene), we may almost be said to have expressed the ideals of the sanitarian.

It may thus be seen that sanitary science must take into consideration the water supply, the disposition of all human and other organic wastes, the drainage of ground and soil, the ventilation of buildings, the disinfection and destruction of disease-infected articles, the isolation of and quarantine against contagious diseases, together with various forms of preventative medicine.

The city is the popular habitat of man today. Country population is almost at a standstill. Urban population is multiplying. Fifty years ago only 10 per cent of the population of the United States was in towns and cities of 8,000 people or more. Today more than one-third of our population reside in such towns and cities, and if to these be added residents of ambitious towns of at least 2,000, it may be seen that the time is not far distant when one-half of the population will live under city conditions.

This growth and activity has given an opportunity for the development of sanitary science and sanitary engineering; and conversely, the sanitarian and the engineer have made the city habitable—have made it possible for the crowding of population in city spaces to become permanent. Old cities were pestilence breeders—modern cities are comparatively clean and free from epidemics. Old cities were noted for low average longevity—new cities, some of them at least, have come to rival the country in healthfulness—in some directions are in advance of it.

That there has been an improvement may be seen by comparison with the conditions of the past. Through the middle ages and even in more modern times cleanliness was considered as inconsistent with godliness, and bodily filth was considered a mark of inward piety and sanctification. The people followed the examples of the monks; bathing was unknown, houses and clothes were foul and filthy, and the streets served as receptacles for garbage and human excreta. Horrible pestilences swept over Europe, and millions of people were victims of these scourges. The black plague in London in 1665 carried off one-third of its population in one year—15 times its present death rate. Even at the beginning of this century the habits and customs of London were shockingly bad. Slops and filth were thrown everywhere, putrefying wastes were not cared for, and water supplies were badly polluted. London is perhaps representative of the experience of other cities, and to a less degree of country districts. Times have changed and especially in the last 20 years sanitary progress throughout the world has been rapid.

To realize what must have been the condition of cities in their filth in the past, a description of some present conditions in foreign countries may be useful.

Extract from an address of the President of the National Health Society of England:—

“In India, where the water for domestic purposes is emponded in open excavations in the ground, where the people wash their soiled clothing by the side of these same basins and allow the waste water to flow back into them in innocent disregard of all sanitary laws, where the people deposit all ordure on the surface of the ground without pretense of a pit or cesspool, where people drink the water in which they have just bathed, cholera is never absent. And yet in this same India, people who adopt new modes of living with their change in religion escape the cholera as completely as if there were no such disease.” Dr. Simmons corroborates the above and tells of the death of 50,000 each year of the 300,000 who annually visit Juggernaut.

The accounts of the condition of Santiago and other Cuban cities, with their accumulations of filth, their foul and infected houses, their filthy streets and polluted streams, and also the deadly results attending the unsanitary conditions in those cities, and likewise, unfortunately in the camps of our army, are familiar to you and emphasize the picture.

One test of the effect of improved sanitary conditions lies in the decreased death rate. The average yearly rate of mortality in the United States is now about 18 per thousand inhabitants. In the cities as a whole it averages 23 and the rural districts about 15. As an example of the change in mortality rates, may be cited the case of London whose death rate has been reduced from 80 per thousand in the 17th century to 20 per thousand at the present time. The median age of the American people has increased by four years in the last century. The introduction of public water supply and sewers into German cities was accompanied by a marked reduction in the death rate, and the improvement in the quality of water supply has generally been followed by decreased mortality. I can not stop to give detailed statistics and proof of this, but it may readily be shown that improved sanitary conditions are productive of improved health conditions. The results are particularly noticeable along the lines of certain classes of diseases.

Certain diseases classed as preventable diseases are caused by infection from outside the individual and are produced or propagated by organic germs or microbes. Local diseases, such as those of the brain and heart and those of the digestive and circulatory systems, and constitutional disease like rheumatism and scrofula are not of this class. Typhoid fever, typhus fever, malarial fever, diphtheria, diarrhoea, cholera, yellow fever, consumption are considered to be propagated by such germs, and several of them are water-borne diseases, that is, are conveyed through the agency of drinking water. About 40 per cent of the deaths in the United States result from causes of a zymotic or infectious character. Sanitary science seeks to decrease this percentage, and ultimately to render these diseases as infrequent as death from small pox now is. By so doing, an annual death rate of 20 per thousand will be reduced to about 12 per thousand, and the consequences will be a marked increase in the average age and length of life of the population.

The marked decrease in the mortality rate in the past hundred years is, of course, not due to sanitary science alone. Hygiene, medical science, more widely diffused knowledge, improved individual conditions, all have been great aids, but by far the greatest portion is due to the improvement in sanitary conditions. As individual cases of decreased death rates due to sanitary reforms may be cited a reduction in the death rate by typhoid fever in Lawrence, Mass., amounting to ninety per cent after the introduction of filtered water, and a similar reduction of sixty per cent in Chicago by the extension of the water tunnels beyond the region of great sewage pollution. A comparison of the typhoid fever mortality of the principal cities of the world shows that those cities having a pure or purified water supply have low typhoid rates, while those whose supply is subject to contamination run very high. Munich, Berlin, Vienna, London and New York range from 2 to 17 per 100,000, while Chicago, St. Louis and Cincinnati range from 31 to 50, and Cairo, Egypt, is 185. Statistics, so far as they are available, indicate that the mortality from

typhoid fever in rural districts is even as high as that in Chicago and St. Louis and several times as great as may be expected under fair sanitary conditions. Truly, there is room for improvement in country as well as in city.

It is difficult to fix directly the connection between a polluted water supply and an epidemic of disease like typhoid fever. The identification of the typhoid bacillus in suspected water would be a thousand times worse than the traditional search for the needle in a hay stack. Moreover, an individual may many times throw off an attack of the germs if his system be in an immune condition. Two examples may be cited to show that drinking water may cause an epidemic.

The little Swiss village of Lausen is supplied with water from a spring near the foot of a mountain ridge. No typhoid fever had been known for several years, when an epidemic broke out affecting 17 per cent of the whole population. Six families, which did not use water from the spring, were exempt. It had been known that the irrigation of a meadow on the other side of the ridge affected the volume of the spring, and as upon investigation it was found that a peasant taken sick with typhoid fever in a distant city had returned to his home near this meadow and that the brook in which his clothes and that of two later cases had been washed and into which the slops from the house had been thrown, had been used to irrigate the meadow, it seemed probable that this was the cause. To prove that the spring was supplied with water from the meadow, several hundred weight of salt was dissolved and poured into a hole in the meadow, and in a few hours the water of the spring supplying the village became very salty. Flour mixed and poured into the hole gave no trace in the spring, showing that solid particles were filtered out.

In Plymouth, Pa., then a town of 8,000, within a period of a few weeks in 1885 there were more than 1,000 cases and 100 deaths from typhoid fever. It was found that the following conditions existed: During the previous hard winter the hydrant water had been supplied from the Susquehanna river, but with the spring floods the supply was taken from the usual source, a mountain brook. A man coming from Philadelphia sick with typhoid fever was cared for in a house near the source of this brook. The waters from the sick room were thrown on the snow on the side hill near the brook. With the general thaw this mass of typhoid refuse was swept into the stream and thence was pumped into the water mains. The typhoid fever cases were confined exclusively to persons using the hydrant water. Those using well water or river water exclusively escaped entirely.

Similarly epidemics of typhoid fever have frequently been traced to the use of certain wells, families using city water being free from the disease, and many similar instances may be told of villages and country. An instance in the country, when three-fourths of those engaged in a job of threshing were taken down with typhoid fever, might be cited, and others detailing the fatalities attending tenant after tenant who had used water from a well which must have been contaminated. Nor are such direful effects confined to typhoid fever, or even to water-borne diseases. The full list of communicable diseases is applicable to country conditions. Malarial fevers, for instance, form a considerable part of country ills. While it is known that the presence of stagnant water and the upturning of old sod are conditions favorable to its genesis, there are unknown factors in the life history of the malarial germ which it is hoped the future will bring to light. In the meantime, thoroughly drained and tilled soil and the absence of decaying vegetable matter tend to make immune conditions. With these effects in mind, compare the value of life, or even of the expense of sickness, with the cost and the necessary effort required to keep proper sanitary surroundings.

That surface pollution may easily reach shallow wells may be seen from an experience told by a friend of mine living in Urbana. Wishing to utilize a kit which had held fish, he buried the two remaining spoiled fish and the salt and brine from it some fifty feet from a well. The result was that in forty-

eight hours the water from the well was so salty it could not be used. Many well waters quickly change their chemical analysis after heavy rains; many are found to be polluted by cesspool infiltration. A supposed medicinal spring in this State was proved to be only badly contaminated ground water.

And it is not always easy to tell a dangerous water. In fact, some of the most impure and dangerous waters are most agreeable to the taste and may be greatly liked for their seemingly desirable qualities. Instances are not rare where wells fouled by cesspool infiltration to a large extent are very popular because of the coolness and sparkle of the water, and much objection is raised to closing them as a sanitary measure. As the Rivers Pollution Commission of England puts it "unfortunately excrementitious liquids, especially after they have soaked through a few feet of porous soil, do not impair the potability of water, and this pollution is consumed from year to year without a suspicion of its character, until finally the cesspool and well receive infected sewage, and then an outbreak of epidemic diseases compels attention to the polluted water." As Professor Mason says, "so long as a water is bright and pleasant to the taste, it is next to impossible to persuade the average owner that it is unfit for use. The carbonic acid gas given off in the decomposition of organic matter acts to make such water more palatable." The fact that the use of water from such wells has seemingly been attended with no bad results does not give it character, for while offering an opening to disease germs, it may not yet have received them, or the physical condition of the users may make them at that time immune or not predisposed to harbor the disease germs.

The determination of the sanitary properties of a water is frequently an intricate and complex matter. Chemical examination alone may not settle its standing. A biological examination may not give a clear title. Such examinations bring up evidence for or against the water, or perhaps show symptoms from which a diagnosis may be made, or give data showing incidents in the life history of the water. In fact, the sanitary examination of a water involves determining the life history of the water, finding where it was born, what influences surround it, with whom it has associated, whether its good clothes result from bad surroundings or hard work, whether its bright complexion indicates good health or is the flush of fever, and whether its development has been such as to show that it is trustworthy or doubtful. The popular idea that a chemical examination determines the properties of a water, much as the amount of poison might be determined, is a mistake. The chemist, as judge, must know the life history of the water, its source and surroundings, and the chemical analysis is of great value in that it throws light on all this. A series of analyses (a single one may be of little value) under varying conditions of filth and ground water and drought may present much evidence. Biological examination may not detect a single typhoid germ, and the water may still be liable to such pollution. With all the available evidence before him, circumstantial though much of it may be, the judge will be able to approve or condemn the water.

Most European cities having a source of water supply liable to pollution have made large expenditures of money in the construction of filters, and the results of the workings of these filters are wonderful. The filters are very carefully operated and their workings are under the continuous supervision of trained scientific men. The effect is very plainly seen in the low typhoid mortality.

In the United States a considerable study of filtration has been made and in many cities filters are operated with good results. Unfortunately, however, no such care is given to filters as in Europe, and many of the filters in our cities, by the methods of operation in use, are inefficient and misleading. The term "filtered water" may not be synonymous with "purified water," and the layman is warned against reposing too much confidence in the safety of waters so labeled. This statement is likely to be applicable to many of the private filters and house filters, which as they are frequently operated are as likely to be disease-breeding machines as to be water purifiers. Without constant care they give only fancied security and are worse than nothing.

Again, it should be noted that clear and sparkling water may not be wholesome water, and that clarified water may not be purified water.

But what about the removal and disposal of household wastes? Singularly, the extravagant use of water in America makes the removal of these wastes comparatively easy, and the water-carriage system of sewers as developed in American cities is by far the best method of removal for large communities. Liquid and floating wastes are promptly carried away through the sewers before decomposition has set in and without exposure in the house and without intrusion by laborers or police. It is thus far more satisfactory than the older European methods of removal of the wastes in casks by government departments. Notwithstanding that many defects in design and construction in the sewerage systems of American cities exist, defects which give unsanitary conditions, yet this state is far better than the indiscriminate use of leaching cesspools and foul and unventilated drains and the presence of heaps of decaying vegetable and animal matter. Well built sewers, properly flushed and ventilated and laid for cleaning velocities are great sanitary agents.

The final disposition of the sewage of cities is becoming a serious problem. Discharge into large bodies of water, with the accompanying dilution and purification, is practiced wherever possible. With small volumes of water, and especially when the stream discharges into one furnishing a city's water supply, purification is more important. In England, and in Massachusetts and in other parts of the East, where very small streams are used as sources of water supply, the required purification is such that the effluent from the sewage comes up to drinking water standards of purity. In many parts of the country necessities for complete purification do not exist, and only partial purification is necessary.

I shall not trespass on your patience to describe these methods of purification, but only to say that experience has shown that chemical precipitation is generally unsatisfactory; that broad irrigation—the application to crops—is unsuited to such a climate as this—either the crops or the purification suffers; and that the new and modern methods utilize nature's forces, oxidizing, nitrifying and otherwise purifying through the active agency of bacteria themselves, not the pathogenic variety, the disease germs, but other similar organisms which are powerful agents for good. Septic tanks, bacteria beds, contact beds, and even filter beds are examples of such processes. It so happened that a septic tank designed and constructed by me was a pioneer in this direction and probably antedated the first English septic tank. Here in these tanks, in the dark and without attention, nature is working away day and night, through the agency of these hordes of minute organic life, reducing the wastes of civilization to harmless forms and preventing the unsanitary conditions which would result from discharging the crude sewage into small streams. Wonderful results have been accomplished, and wonderful advances in methods of sewage purification may yet be expected.

"Sanitary plumbing" is a popular expression in towns, but unsanitary plumbing is quite a common fact, due sometimes to the plumber who does not know his business and scamps his job, and sometimes to the house-keeper who scours the pots and pans and scrubs the kitchen floor but fails to look after dirty fixtures. Besides, settlement of walls and deterioration of pipes and jointing may open up the joints, and so the plumbing system should be tested occasionally. However, recent plumbing practice is far in advance of old methods, and exposed work, well ventilated pipes, well-formed traps, straight direct runs, proper outlet, and the many little details of good design, together with good workmanship, leave little to be desired; but better an old style slop bucket than costly plumbing, poorly planned or even neglected.

Permit me, however, to proceed to relieve your minds somewhat on the matter of the deadly sewer gas, to which has been attributed so much disease and misery. Sensational writers have needlessly alarmed the public and without any basis of sanitary fact. While there is much to be learned in this matter, it is yet to be proved that disease may be communicated through sewer gas. The present knowledge of this is about as follows:

Sewer gas, or sewer air, the air of sewers and plumbing systems, is, for ordinarily well ventilated sewers, not much worse than the air of our rooms—vitiated it is true, but chemically it does not contain much more carbonic acid gas than the air of a room filled with people, and bacterially it does not contain as many bacteria as street air, and its bacterial content is that of the street. No pathogenic bacteria have been found there, and it seems impossible that any could reach it from those happening to be carried in the sewage. Breathing such air, less oxygen would be taken into the lungs and slightly more carbonic acid gas, but as the breathing of pure air and carbonic acid gas has been shown to have no particular effect upon a person, no bad effects can come from this. As badly ventilated rooms give headaches and dizziness, we may expect that sewer gas will have a similar effect. The cause of the symptoms experienced in badly ventilated rooms is unknown. In the same way there may be in the sewer gas something which when continually taken into the system lowers the vitality, reduces the disease-resisting powers of the individual, and hence renders him more readily a victim of disease.

Taken all in all it must be concluded that the danger from sewer gas has been greatly overestimated, that it has not been shown to contain or convey pathogenic germs, but that its continued presence, especially in sleeping rooms, would lower the vitality and render the individual more susceptible to the inroads of disease. While this is to be avoided, the probability of dangerous results in ordinarily well built houses, is far less than that from impure cellar air. Damp, dark and unventilated cellars, those in which there is no chance for light and frequent change of air, where mouldy growths may occur and where ground air may bring objectionable results, may contain vitiated air which passing up through floors and between partitions permeates the house. Sometimes the leaky air duct supplying the hot-air furnace aids in distributing the cellar air. So look out for the sanitary condition of the cellar.

The realm of the prevention of the spread of the air-borne diseases is also very large, and quarantine, isolation, disinfection, and preventative medicine have achieved great results. The work of State boards of health in the saving of life is not generally appreciated, but irksome and seemingly arbitrary though their acts may appear to be, the results are far-reaching. It is difficult to state the gain to the public health, but it has been estimated, for example, that the Michigan State Board of Health in five years saved to the people of Michigan, counting the value of life \$500.00, five million dollars in the value of the lives saved and the expense of sickness prevented from four diseases,—diphtheria, scarlet fever, typhoid fever and measles.

But you will say that much of what has been described is not applicable to country homes, and the farmer is fortunate that this is true. If cities employed some country practices, their death rate would be doubled, and if the results outlined by sensational would-be sanitarians applied to rural conditions, the country would long ago have been depopulated. Why, then, is it that in spite of careless practices and apparently unsanitary methods the sanitary conditions of country homes are such that the death rate generally is less than that of the city? Nature is at home in the country, and the farmer's transgressions may not have taxed her power of recuperation. Drained surface soil has wonderful power of disinfection; vegetable growth, bacterial activity of fresh earth, abundance of air in tilled soil, nitrifying effect of surface filtration, purifying effect of sun and air, all aid in making such soil, when not overburdened, a wonderful sanitary agent, decomposing, reducing and converting to the enrichment of the earth that which otherwise would be destructive to life and health; and yet when overtaxed it is true that this agent breaks down and becomes a conveyor of pollution and disease.

How then may the dweller in the country improve his sanitary condition and avoid much of the health-effects of unsanitary surroundings? Let me sketch briefly some of the elements attending proper, healthful conditions.

The old well may have been shallow, may have received surface water and surface washings from decaying heaps of vegetation, or from the slop sink or the privy vault or the barnyard. Test it by dumping a barrel of salt in a

suspected pit, or better throw in a solution of chloride of lithium and have the water examined with a spectroscope a week or so later. What wonder that typhoid fever is more prevalent in country districts than in cities having pure water supply and that other maladies hang on in some country neighborhoods. Discard the suspicious water, and sink a well below impervious strata, cutting off the surface water. The deep well which has been put down so commonly in recent years has been reducing doctor's bills amazingly, so much so that the physicians are remarking about it.

Fortunately for the farmer, refuse animal and vegetable matter has a money value for him, and it does not need even a hint to cause him to utilize everything for food or fertilizer, but he may need to be urged not to delay its removal and not to pile it where the soil near the house may become polluted thereby. The slop drain is generally badly located and in foul condition. Build it tight, give it large fall, flush it well and frequently, and see that no nuisance results from the disposal of the waste water at the end, or discharge such wastes scattered over shrubs or dry soil. The proper construction of this drain and the method of disposition of the wastes depend so much upon local conditions that it is difficult to give definite instructions concerning them.

Fortunately, methods of disposing of wastes seemingly primitive and crude may be sanitary methods. Vaults for the disposal of human wastes may well be shallow pits in dry soil, which may be filled with earth when, after not too long a use, a new site is selected,—leaving good sanitary conditions in ordinary soil if the earth be not overtaxed. More elaborate earth closets are preferable if properly constructed and cared for.

Flies are pests, and while they may act as scavengers, their agency in carrying disease germs to food is too probable to make their presence bearable.

The site of the house must be well drained. If not on a naturally dry spot, it should be thoroughly and completely under-drained to a depth below the cellar—made dry in spring as well as summer. Allow no rank vegetation or weeds to hold moisture on the surface—sheep will do what the scythe or lawn mower may not find time to do. And the cellar, it must be always and at all times dry—not merely generally free from water but free from dampness any where. It must be kept free from rotting vegetables, and should be constantly ventilated and be given as much sunlight as practicable. If the cellar does not extend under all the house, the remaining foundation space must be dry and airy. The absence of emanations from polluted soil and the exclusion of impure ground air will decrease malarial and fever attacks. And the premises must be kept thoroughly clean; deodorize and disinfect, not necessarily with chemicals and patent disinfectants, but with fresh earth, upturned soil, drained surfaces, air and sunlight; make cleanliness the criterion.

Have I told you nothing new? Do you say that this merely describes the surroundings of the country home? Do I mean that this is the ideal? Through all the work of the sanitarian, the uppermost thought is cleanliness—pure air, pure water and pure soil. The careful farmer, in cleaning up and hauling away, and tiling, and raking and burning, in painting, and whitewashing and draining, and the thrifty housewife in scrubbing, and cleaning and airing and letting in sunlight, are sanitarians to their community, and thus are aiding in a great and wonderful work, the promotion of the public health.

But is this all? Are health conditions the only aim in the introduction of sanitary arrangements? In the beginning, sanitary engineering was said to include and imply the construction of certain utilities, and water fixtures in houses, bath tubs, lavatories, kitchen and laundry sinks and other plumbing, and the means of easily disposing of the wastes of the household are worth having even on the score of utility, convenience and comfort. Why should not the farmer's wife have the same facilities and comforts as the city woman of the same standing and equal wealth. Land values have trebled, barns have grown larger and mortgages smaller, the land owner's hours have grown shorter and the opportunities for enjoyment and comfort have increased.

Let me describe a farm house of a friend. It is well built, properly heated, and conveniently arranged, planned with an eye to comfort and health. A gasoline engine (easily regulated, requiring little attention and incurring little expense) pumps water from a deep well to an elevated tank. This water

is piped to barn yard and feed lots and pastures—and also to the house and to the dairy. Soft water is pumped to an attic tank. The bathroom is well warmed in winter and well aired at all times. Hot water pipes are provided. Lavatories and closet, and kitchen sink and laundry sink, water fixtures, waste pipes and soil and vent pipes are put in in such a way as to fill sanitary requirements. In addition to these conveniences the construction has been such that the air and soil under and around the house, the ventilation of the house, and every detail go to fill the requirements for a sanitary dwelling. This is not a rare example. Such houses are rapidly increasing in numbers. As farmers can afford the outlay the numbers must grow. The wife and family deserve the improved sanitary conditions and the added convenience and comfort. The equipment may not always be so elaborate and expensive, but both sanitary requirements and convenient facilities are essential.

And woman can be an active agent in furthering the adoption of sanitary conditions. Her inborn hatred of filth, her enmity to dust and dampness, her love of sunshine and fresh air fit her to be a sanitarian. Let her learn fully the requirements of sanitary conditions and methods of sanitary science. Let her see the import of its results and know the details of its principles, and next to the medical and engineering professions we may count on her playing the most important part, both in the home and in the community; and may the Illinois Association of Domestic Science aid in accomplishing this result and thus share in the triumph of prolonging human life and lessening human misery.

During Mr. Talbott's talk the Mt. Vernon High School came in a body, and were addressed by Mrs. Kedzie, who introduced the Professor to them. Professor Talbott was followed by a song by the Clover Leaf Quartette.

Mrs. Kedzie then announced that Mrs. McLaughlin had written a paper, "How to Teach Our Boys and Girls Thrift and Obedience," but as it was impossible for Mrs. McLaughlin to be present. Mrs. Challicomb would read the paper:

HOW TO CULTIVATE HABITS OF THRIFT AND OBEDIENCE IN OUR BOYS AND GIRLS.

Thrift and obedience go hand in hand. We can not expect thrift without obedience, and we can not have obedience without thrift. Thrift began with civilization, it began when men found it necessary to provide for tomorrow as well as today. It began long before money was invented. Thrift means private economy as well as the order and management of the family. Economy or thrift is not a natural instinct as so many of us would like to believe, but the growth of experience, example and forethought. We must look well to the little things of life. Neglect of small things is the rock on which a majority of the human race split. Human life consists of a succession of small events, each of which is comparatively unimportant, and yet the happiness and success of every man and woman depends upon the manner in which these small events are dealt with. Character is built upon little things; the success of a man depends upon his attention to the little things, and the habits of our children depend upon the little things taught them day by day.

How many of us, through sentiment and habits of worrying, take from our children the independence and self-reliance which by rights should be theirs. I was reading not long ago that it is not an uncommon thing on the avenues of large cities to see a prosperous, sturdy little boy on his way to school, with beside him, a maid to carry his books. The building of a man is a difficult and complicated matter and demands that certain elements should be sustained from the very beginning, such as self reliance, pluck and energy. What a blow to an American boy's pride to be tagged after by a nurse long after he should rely upon himself. This same little boy will, no doubt, come home from school and throw off his wraps for maid or mother to pick up; it

is often much easier to do this than call the child to do it, but every time we indulge in the luxury of pampering and waiting upon our children we are sowing the seed of idleness, selfishness and immorality. If I could have but five years of a child's life in which to cultivate habits of obedience and thrift, give me the first five. The first tender years are by far the most important in the moulding of character and general moral training. I agree with Mrs. Rorer when she says, "if were she to adopt a child she must have it before it has lived three hours," or before it has been spoiled by the sentiment of mothers, grandmothers and nurses. One writer goes so far as to say that all babies should be transferred at birth to public nurseries, where they could have the best professional care and handling, and where each would be treated impartially, as one of many, rather than a demigod around whom all other created beings revolve. Our babies are monarchs. They begin to rule us long before we have thought of training them. I often think of a story I once heard of a woman who went to her pastor and asked when she should begin to train her child, he said, "How old is your child?" She replied, "Just six months old." He said, "Madam you have lost but six months, begin now." Indolence, selfishness and sentiment in mothers has ruined more boys and girls than generations of wicked fathers. We often hear it said, "That boy is a lazy fellow, but look at his father, he comes honestly by it." I say look at his mother. Nine times out of ten you will find her either selfish, indolent or sentimental, more times all three in one. We mothers have a great responsibility resting upon us, we can not feel it too keenly, but we need the coöperation of the father.

Parents must agree upon some plan and abide by it. They must uphold each other in the training of their children or the anchor is lost, and the child stands upon a shaky foundation. The well being of our boys and girls rests upon the untiring and united efforts of father and mother to make them obedient, thrifty and self-respecting. Let us begin with our babies. We mothers have a habit, and a bad habit, of running to them every time they make a sound, taking them up, petting, rocking and pampering them. We do not know that when we do this we are taking from them independence and self-reliance. When we have fed, bathed and made our babies comfortable our duty ends. We make our babies silly and self-conscious by noticing everything they do, and then in a year or two, try to snub these traits out of them. Our babies are smiled upon, approved and adored only to have all their pride taken from them by "Don't show off" you are too old. Right here is one of the most pitiful periods in a child's life, and just here is where a proper kindergarten training is of great help to parents. Not long since I heard a mother say, she had taken her little six-year-old child out of kindergarten because she wasn't learning anything. I was surprised. I do not send my children to kindergarten to learn to read, spell and do examples in arithmetic. I send them to form habits of industry. I send them to kindergarten to make them feel the responsibility of doing something every day. Children should feel that there is work waiting for them each day, that work should be made as attractive as possible, which is, of course, the idea of the kindergarten. Industrious habits thus formed will influence their whole lives. We are all looking for the best methods of teaching our children thrift. We want to feel that should we be taken from them, they will not be a burden to the state. We can not endow them with these traits, we must teach them. I believe that environment is a stronger influence in life than heredity in the formation of character. How a child thinks is far more important than how he spells. How a child feels is of more importance than how he reads. As parents it is our *right* and *duty* to know the teacher who is to have so large a share in the early training of our children. We should know their motives, thoughts and character. We should study their plans and methods, that they may not undo what we have been trying to accomplish. Above all, we should uphold the teacher before our children.

Parents and teachers should work together in the training of children. Parents are too indulgent. For example: The little boy wants a knife, he goes to his mother with the wish; if she is a good, wise mother she will say, save your pennies and buy a knife. He begins to save, but the time seems long; finally, the mother gives way to sentiment, goes out and buys the

knife; he is happy for a moment and she is satisfied. She is also *very short sighted*; she does not know she has *delayed* that boy's progress if she has not *destroyed his ambition*. The knife comes easy, the knife goes easy, when if he is allowed to earn it by patience, and a struggle, he will guard that knife so carefully he can show it to his grandchildren. We are too eager to please our children and appear generous in their eyes. Christmas, that *blessed day*, has been made a burden in the majority of families in trying to indulge every wish of the children. We feel that the entire toy store is not too much. Perhaps you have heard of the little boy who was standing in front of a toy store Christmas morning crying. A gentleman passing asked him what he was crying for; he said, "I want a Christmas present." The man told him to select anything that he wanted and he would give it to him. The boy sobbed, "I've got all those things." How often mothers say they are willing to make any sacrifice to please their children; the hard work will come soon enough. We are doing our children greater kindness by teaching them self denial and generosity.

I have been much interested in reading "Some Thoughts on Education," by Locke, written in 1690, two hundred years ago. He says, make few rules for small children, but see that they live up to them by forming habits, rather than by constant discipline. He says parents and governors ought not to make scarecrows of themselves that their children and subjects should always tremble in their sight, such an austerity may make their government easy to themselves, but of very little use to their pupils. Keep the mind in an easy, calm temper.

"It is as impossible to draw fair and regular characters on a trembling mind as on a shaking paper."

This subject is one so full of interest to me, I find it hard to end, in fact, there is no end and no time to be wasted in the training of our children in habits of obedience and thrift. One woman has wisely said, "Neglect the whole world if need be for the welfare of your child."

"For the structure that we raise

Time is with materials filled.

Our to-days and yester-days

Are the blocks with which we build."

—Longfellow.

Mrs. Kedzie: We are very much disappointed today in not having with us Miss Bowman of the Ohio State University. Miss Bowman is a woman who has been teaching domestic economy some years, and who has been very successful in her teaching. Until noon today we expected her, but word has come that she can not be with us.

In taking a little of your time, this afternoon, I have no apology to offer for coming before you with the same old talk on the same old subject upon which I have spoken to many of you before, for I have the very best of precedents to give to an Illinois audience. I have the precedent made by your own Lincoln, who gave answer to the charge made by Col. Douglass at one of their famous debates. Douglass said, "You have had a good speech, and it ought to be a good one, for Mr. Lincoln has said the same things in the same speech down at Cairo, up at Peoria, over at Galesburg, and now again he makes the same speech to you." Lincoln answered, "I suppose Col. Douglass has spoken the truth, for I have made the same talk at Cairo and at Peoria and at Galesburg, and I mean to keep on saying the same things as long as I live."

When we women talk, it is likely to be on the one subject which is a most familiar one to us all, but which touches the heart of every American wherever he hears it—the subject of home making; and I wish to talk again about the teaching of domestic economy in our schools. As the boys and girls have come here from your high school today, I am glad to say before them that the training in public school work in Illinois has a strong tendency toward making itself felt in the lines of practical work, and manual training and domestic economy are attracting a great deal of attention all over the State. The young people who are in our schools today will make the men and wo-

men of tomorrow, and unless we give them a practical education which will make them ready for all the duties which will come into their hands, we are not dealing justly by them.

Illinois people have been strong in their ideas of schools. We see upon every prairie and by every stream the white school house which indicates growth for the community. But some times I think we have not been quite thoughtful enough in the kind of education we have given our children. It may be we have been a little like the story told of Huxley; he ran out and stepped in his carriage which was waiting, saying to the coachman, "drive just as fast as you can." By and by he saw he was not reaching the desired point, so he said, "do you know where you are going?" and the driver answered, "no, but I am driving just as fast I can."

Occasionally we have put the children into schools, and have felt that they were to be educated, but we have not questioned closely enough as to whether that education was going to train them for the lives they were to live, or as to whether it was simply a driving ahead at education in order to give them some training.

We must all know that every boy, every girl, will have need in his latter days of trained hands, hands that can do whatever is demanded of them, and so the matter of manual training has grown with us until we feel that all our young people must needs have some kind of work, day by day, even in the schools. The girls who live across the sea always find sewing in their schools while they are still little girls, and the older ones know they will sometime go to school where they are taught cooking along with their other school work, or will attend cooking school for a certain length of time; for sometimes they learn their mathematics in one school, their language in another and their cooking in a third.

On our side of the sea, we have put these matters all together in our schools, and we believe our young people do better work for having varied kinds of work every day. As I look over the State of Illinois, and see the work which has been done in the last few years, I believe there is no question but that the men and women of this State are fully aroused to the importance of teaching their girls domestic economy.

When I remember the work of such women as Mrs. Carter, Mrs. Davenport and Mrs. Dunlap, when I remember the work taken up all over the State, and find that in fifty-three counties of this State there are Domestic Science Associations organized, it seems to me there can be only one outcome to the matter, and that is more successful work toward making better homes, for when women take hold of a thing it is sure to do good work.

There was a time when education meant simply training in religious work, and when monasteries were responsible for all the education which was given. Then came a time when education meant training of the brain, so there should be more pleasure in life; culture for culture's sake, and the educated man or woman found life more full of joy because of his trained brain. But that was a selfish object, and the world has grown to feel unless an education makes a man or woman of some value to others in the world, that education is narrow and selfish, and so we have come to feel that unless a man be educated both in hand and brain, and unless his heart be trained to prompt them both, he is not a thoroughly trained and educated man. We have learned to believe that education means deft hands and a ready heart, as well as quickened brain. So we have put into our schools more or less hand work, and all through this State there are inquiries coming in every direction from teachers, asking how much work can be done in grade schools and high schools; asking all sorts of questions with an earnestness that shows that those men and women mean the young people shall have training of hand as well as training of the brain.

Those of you who have little ones about you know that if you can keep the little fingers busy they are not in mischief, and our teachers have found that if the little hands are kept full there will be no need for discipline. The happiness of working out the idea that comes to the child, when he wishes to make something with his fingers, gives a new thought to school work, and proves Ruskin's statement true, not only in the home but in the

school. He said, "there can be no healthy thought without labor, and there can be no happy labor without thought," and you farmers, you men who have been most successful in tilling this black soil of Illinois, giving to all your neighbors examples of your enterprising thrift and growth, know that there has been just as much of your brain worked into this black soil as of your hand; and know also that if you did not take hold and carry out your plans, your work would not succeed.

In the last 75 years the work of the world has been changed because men have given their time, their energy and their strength to work out the problem of more product for less work. The fact that 75 years ago it took ten thousand men to make a ton of wool up into woollen cloth, and today it takes but nineteen hundred to do the same amount of work, shows that the product of one man's hand has grown greater and the amount of work that one man can do has become more, until we question, sometimes, whether there will always be work enough for every hand to do.

This change in affairs has come about through the earnest seeking for better application of time and of labor. If we realize all that this means, and understand that the men in this land are many of them putting all their time in experiments to make life easier, happier, more full of joy to the world, we ought to be ready to give the girls the chance to do their share in making the world happier and better. A great army of men stand in laboratories putting strength and time at their chemical tables to know something more about food stuffs; to find out what kind of wheat will give the best kind of flour for our use; not only the chemist, but the agriculturist also, who works for better yield to the acre, the entomologist, who works to destroy the harmful insect; the miller, who plans to get the most flour out of the smallest amount of wheat and the shipper, who plans to transport food stuffs at the smallest cost, are all working toward giving the world better and cheaper food. The man who sends out that kind of knowledge is helping the world. If men can put their skill and time on this kind of work, why should not the girls have their share, and be taught the fundamental principles of making all these food stuffs into better foods, be taught to use them more economically, to know something of the purpose for which they are eaten, and above all, to know the demand which the body, in its energy, creates and to know how to supply that demand.

A girl who steps from her school life back into her father's home, or into a home prepared to give her an opportunity to work out her own individual home problems, finds herself ready to use all the knowledge with which she can come prepared. The selection of foods for the people dependent upon her is always a long lesson. There are no foods that are always good, and there are no foods that are always bad. Individuals must learn to select somewhat for themselves, but every woman at the head of a household must learn to select for each member of her family, with some idea of the value of the foods she gives to each person.

Men who raise cattle for market, know that much of their profit lies in their ability to select the foods for those cattle; and there is not one of you who would take a thousand head of cattle and feed them exactly the same. When you find one here and there who is not keeping up the increase expected on his rations, you are going to take him from the herd and feed him somewhat differently; but how many families take this same care for their children? Is the same thought shown if the child be not so strong or able as his brothers? A man in a large city recently said he had fed a family of six, three grown people and three growing children, on \$5.00 a week, and he boasted that his wife was so economical and careful that the \$5.00 had supplied their table each week for nearly two years. During the same conversation the man said: "I had hard luck in some ways. The last two years my doctor's bills have amounted to nearly \$500.00. Some one has been sick almost constantly." When the good strong friend said to him, "do you know you have been starving your family?" the man was shocked. The friend went on to say "your family has not had enough good, nourishing food. You have simply given these growing children something to fill up. You have not looked to it that their bodies and minds were well nourished." It has

now been nearly three years since that conversation took place, and I am happy to state that the doctor's bills have been smaller, while the grocery bills have been larger in that city home. I wonder whether there not many of us who have starved with plenty about us, simply because we did not know how to select our food. If our girls were taught as much about the foods they are to eat, as they are of the language they are to talk, there would be fewer unhappy homes in the land, and I believe there would be fewer illnesses and fewer untimely deaths.‡

We all feel that it is absolutely necessary to send our boys and girls to school. In this day and age we ask much more of our women and their daughters than we asked of our grandmothers. We have learned to put more into the hands of the teachers of the schools than we did in the former times. The day has come when, unless this training for home-making is given by the teachers, few of the pupils get it. We have found it far easier for one teacher to train twenty girls in arithmetic than for twenty mothers to train their own individual girls. We are learning today that it is easier for one teacher to train twenty girls to cook than it is for twenty individual mothers to train their girls to cook. It is simply one problem in the educational world, and the fact that the last fifteen years has seen such a marked increase in this kind of work in the schools, makes it apparent that the world is demanding much of manual training. I hope that the day is coming soon when it will go into all the schools of Illinois.

In several of the universities we have strong departments of domestic economy, and these universities are not only training the older girls for good home-makers, but are training them for teachers as well; and when I know that your Farmers' Institutes have put \$150,000.00 into a building at Champaign for your boys, I am sure you are not going to be behind in doing something for your girls. I am sure the love in your hearts for your girls, if anything, is a little bit stronger than for the boys. You are some day going to depend upon the boys. The love for your boys carries with it a certain feeling of pride, and a looking up to the strength of the man who is growing up beside you, and whom you are to recognize by and by as a tower of strength upon which you may lean in your older days. But for the girl there is always a feeling of protection, and your only thought for her is to make her to be the wisest and strongest woman possible, that she may make a helper for some other man just as her mother has been a helper to you through all the hard days of your early life. So I say that you men of Illinois are not going to stop with doing for your boys, but are going on to do for your girls with such strength and power that the Illinois girl may feel that she is to have all the advantages that will tend to make her the best woman this country can produce.

These women of Illinois must do more work than their grandmothers because the world demands more of them. They have the experience and the work and the strong words of wisdom that their mothers left, and unless they use these means to make them into stronger women than have ever lived on these prairies, they are not living up to their privileges. So we must help the girls in every way possible.

We Americans love our homes, and we want to make them into the best homes in the world. We know what the word "home" means. It has not been many years since a ship started across the Atlantic with no cargo, no passengers; and sailed across the sea until it reached a wharf where it waited for its only cargo. That cargo was a long box brought onto the ship; then silently the prow was turned toward home, and across the sea came the ship, day by day, until it reached our own shore, and then all over this land there were guns booming, and flags at half mast, and bells tolling, because the dead body of one man, an American citizen, had been brought back to this land for burial. And that dead body was so honored because that man had written the words that we sing and call "Home, Sweet Home." Americans care for such things, and Americans know that in order to make this nation strong, and earnest, and wise and true, homes must be built up; when we build up the home we build up the young people.

We must teach all our boys that to be strong, clean, earnest, christian men is to find the best heritage that has ever been given to an American; when we teach our girls to be earnest, faithful, honest women, we are giving them the best teaching we know. From domestic science we teach these girls the training of the heart as well as of the brain and hand, and this means the building up of the character, the making of honest men and women. The heart to will, the brain to plan and the hand to do, means the best of attainment.

When this thought of domestic science comes to us, all that is really needed is to leave it in the hands of these women who have taken hold of the work with such power in the State, and if they can keep on as they have done in the past, there will be no question of success.

When a woman goes to men and asks for help toward doing anything, it is pretty certain to be the kind of thing that men want to see done. It is very sure that any member of the Farmers' Institute can depend upon the women to do good work, and when the women ask you, for the sake of your own State and for the sake of your own girls, for help in teaching and bringing up these girls to be more earnest daughters for you, stronger wives for your sons, and more earnest women for the whole State, I am sure this Institute will not fail to respond heartily.

President Willmarth stated that in case Miss Bowman's paper could be secured that it would be published in the annual report. (It is therefore printed as part of this day's proceedings.)

WOMAN'S SHARE IN ECONOMICS.

According to Herbert Spencer the history of civilization is divided into two periods, the Military and Industrial, and as the Industrial Age was the natural outgrowth of the Military, so was the Military Age the result, not of choice but of necessity.

In the most primitive times there was no place for economic activities. Existence was unsettled and chaotic; man warred with man, and nature showed only her austere side; there was poverty of material, of thought and of ideals, and self preservation outranked every other consideration.

Man more than woman being endowed with the needed elements of strength and courage, was the natural protector, and early records are resonant with war and din and with the accounts of heroic feats. Care and diligence are needed to make luminous the half effaced words between the lines of history, but much has been deciphered concerning the home life of these peoples and the results have proven as worthy the efforts.

First were the caves a refuge for the family, again the field furnished the domicile, and the leafy branches or the leathern tent provided the shelter. Always, however, was there a home, transitory and unworthy as it may seem, and in this home some woman was experimenting and patiently laying the foundation for better things. She was carpenter, miller, baker, physician, mother. In the olden time a husband had done all that could be expected did he slay an animal. The wife skinned it, quartered it and bore it home; she fashioned from the hide, clothing, tents, thread and bottles; she dried and prepared the meat; her hand plaited the baskets and shaped the pottery; it was her love of color that first expressed itself in grotesque tatooing and later in less crude decorations of utensils. She labored in the fields of science and art and founded an economic activity which is even now in its evolutionary stage.

Women then were by necessity the first producers, but the Military Age slowly passed away. Men had time and opportunity for pursuits other than those incidental to war. A permanent home became a possibility, and the husband occupied himself with planting and raising at his door what had been for so long precariously sought wherever the family happened to be. He took up the outside work, producing the crude materials, which the wife in the home brought to a higher state of perfection. Man and woman thus became equally producers, and new contingencies arose—the home products

were varied and complex; more was produced along certain lines than was required and exchange solved the difficulty. Exchange spread over a wide and ever widening territory, and at last great ships connected the railway routes of the new world with the sand routes of the orient. Factories have today appropriated the principles evolved by women with such infinite care centuries ago, and though a few women have chosen or have been compelled to follow production to the factory, the mass now find their occupation gone.

Economists have recognized the changed condition and women have accepted it, but few, either men or women, have fully realized the added responsibility which is to be assumed if the economic activities are to be practically adjusted.

The problem of today is, not how to increase production, not how to further exchange, but how to regulate consumption. Men have neither time nor inclination to do more than supply the material needs of the family. It is the woman who must arouse herself and consider what is to be done with the wealth and culture being poured into her coffers. The time of the family she must proportion and direct; the home is hers unreservedly to make or mar. These governing questions are more vital than any on which she can spend her energies, and economic and sociological problems are clamoring for recognition.

Economics is for women as well as for men, and no general training is adequate which develops along the lines of production and ignores the highest principles of consumption.

Prosperity and happiness mean wisdom. Not wisdom at some point and chaos all the rest of the way, but intelligence and harmony at every step. Men can not successfully work alone in the economic world any more than they can in the social, moral and physical world, and when women understand the necessity for economic coöperation then will there be more ideal homes and model nations.

During the past quarter of a century, thinkers have come to admit that the education of women is somehow at fault. In the average college curriculum open to them, is too much mere study without definite purpose. Most of the higher institutions of learning offer parallel courses for men and for women. The young man's training is designed to further his ability to accomplish certain work, while his sister's, though intellectually stimulative and decorative is rarely utilitarian, and if she does use her education it is to divide with him the money rewards of the business world.

The mass of women, however, choose not business but the home as the field for their activity, and for this labor of love there is small preparation. To her who adopts home-making as her profession, not because it is the only way of supporting herself, but because she believes that in family life is to be found the best means of perfecting herself, as well as her greatest opportunity for good, to such a woman character building is a serious responsibility and the modeling of the home a matter of the widest importance.

Everywhere is the question asked, "How is such training to be obtained?" and only at intervals has there been a feeble response. The material is at hand but it is waiting to be made applicable.

A mother should know Biology and Physiology, food and sleep should be more than terms; hygiene and sanitation are not alone for the architect and physician; Psychology and Ethics have a use later than the final examinations; Economics can never be cast aside, and a girl may have this practical education and yet find time for the esthetic and artistic, were studies sifted and applied.

If the home is to be ideal, home-makers must have a governing standard of what makes for greatness in life. If lavish display and a large bank account mean the consummation of ideals, if the removal of all responsibility and the training of cultivated and characterless men and women is to be the aim, it may be likely undertaken, but if character and harmony in life, if the production of healthy, hearty, soulful men and women is to the standard, then it calls for wise preparation and selection and the denial of all things that are enervating and enfeebling.

For this, a training is necessary which shall enable women to make choice and not to drift. In every expenditure of energy or money there should be a conscious effort towards a higher and fuller life. The intellectual and emotional natures need constant stimulation but this is futile without some regulating influence.

Serious women are not now asking for more decorative advantages but for knowledge which gives to them greater power for usefulness. Sooner or later they must realize that this usefulness lies in one direction and that an ideal career is along the line of natural evolution. A woman can not emancipate herself from nature's laws, she must accept them, but in their right conception is a world of liberty. She should be educated to see beyond the industries of the day, and in a measure, she will ever live her best life, largely in the realm of dreams. The future makes imperative calls upon her and greater knowledge of science and nature will bring an added respect for the most trivial duty. Her highest ideal, whether she be the mistress of one home or so situated as to influence many homes, should be the uplifting and perfecting of humanity.

What she practically needs is to get control of her work, to realize its power and to feel herself capable of managing it. That the problems of wise living are difficult is small reason why they should be ignored, or if not ignored, why they should be solved by families fleeing to boarding houses and hotels.

Housework may be simplified as soon as a body of thoughtful women think it worth while to make its simplification a study. A common and applicable education is needed. Each generation has worked out its own salvation (if it survived) and the next generation has stepped in the identical foot prints of its predecessor. Less advance has been made in household matters than anywhere else and with the present complications of living a readjustment is sadly needed.

It is quite possible when women make common cause that much of the routine work can be removed from the house and still leave the home intact, but if our ideals are to be preserved, the home must ever stand for privacy and independence, for calm and harmony, and this is not to be found at any hostelry, however expensive.

A satisfactory life for woman is not all in the home nor all in the world. That knowledge is most valuable which makes her most competent, most womanly, best prepared to aid humanity, whether it be in her family, her city, her state or her country. If she is to be so prepared it means a knowledge of life and all that goes to make it worth living; it includes an appreciation of all that is beautiful and good, all that is homely but useful, all that is necessary and healthful.

Women have done much for themselves and for humanity, but with system and assurance the work should be accomplished with less nervous, mental and physical strain; there should be more leisure, more opportunity for intellectual and moral development later in life. Art should always be the outgrowth of science, it should be founded upon something, and so long as woman's education is purposeless and planned without reference to sequence in studies, so long will her life be made hard by difficulties and fruitless effort.

There is an unlimited amount of sentiment written and recognized concerning home life which in our hearts we sacredly cherish, but when women awaken to their true responsibility, they must admit that there is more than sentiment required to make an ideal family life; that there are laws of health and harmony as inexorable as any other of the laws of nature.

The home, with all it implies, is equally sacred to men and to women and of every rank in life. If it is to be preserved it must be cared for thoughtfully and earnestly. It has been intrusted to the women, and the girl of today is the matron of tomorrow. If her function is to be truly performed she must be more than a beautiful butterfly, not less. To mind culture, charm of personality and soul, and the desire for noble living must be added power. She should not only wish to be useful, she should be able to be useful; re-

sponsibility should merely prove her resources, and emergencies should make her strong in the knowledge that she is a force and a power which is to be reckoned with in the economic as well as in the physical and ethical world.

Mrs. Carter: It is not wise for me to talk after Mrs. Kedzie, but I have something I must say, and will risk it. In that new building that is going up is a domestic science department room, a room set aside for such a department. It was your influence that brought that building to pass, and now we stand here today asking the influence of the Illinois Farmers' Institute to bring to pass the possibility of a domestic science department in the University. Your influence will help us to get it. The room is there, but we want a department; we want teachers, and we ask you to help us get it.

Mrs. Carter then read the names of the Committee on Resolutions, and requested those delegates to please come to the table and register and the committee there would be Mrs. Davenport and Mrs. Raymond.

Tomorrow at the Cumberland Presbyterian Church the ladies will hold a session. In the morning we will transact our business, and in the afternoon we have a program. Last year we forgot to invite the gentlemen. You are all invited and all welcome. I will ask you, if you can, to come to the Grand, which is nearby, and in the parlor we will have an hour of visiting and getting acquainted—all of you are invited, whether delegates or simply visitors.

EVENING SESSION, FEBRUARY 20TH.

President Willmarth called the meeting to order at 7:30. The Mt. Vernon High School then rendered "A Thousand Years, My Own Columbia." Next followed a reading by Prof. Chamberlain, of Mt. Vernon. Mr. Hawkins, of Mt. Vernon, then gave a reading, "The Farmer and the Wheel," followed by a song by the Mt. Vernon High School Trio. Mr. Willmarth then introduced Prof. Davenport, of the College of Agriculture, who addressed the convention as follows:

AGRICULTURE AND THE PUBLIC SCHOOL SYSTEM.

Every thinking man must have marveled at the unprecedented development of the colleges of agriculture in the last five years, coincident with a widespread public interest in agricultural education that seems to have assumed form and purpose almost before its existence was suspected. The evolution of this class of colleges, their place in the school system, what they were to do and how they were to accomplish the task, are all questions more or less shrouded in mystery, and they have proved exceedingly fruitful of discussion among educational people. But of a sudden and almost without warning the public has settled the matter off hand, as it generally does, and is lending its unqualified support to these colleges. Not only that, it begins to talk about agriculture in the common schools until many a worthy devotee at the shrine of higher learning who fails to appreciate the difference between evolution and revolution and does not know that education is good for all the people, but thinks he sees in it only a proposition to pull his idols down, scratches his head, wonders what it is all about, what will come of it, and if something is not really out of joint in modern tendencies regarding education.

The truth is that there is upon us a new order of things in the educational policy of this country, and it will work a change in the schools as to the subject matter that is brought before our children to educate them, and in respect to the view of life that is to be held before the student while he is undergoing the educational process.

Evolution in the affairs of men as in the organic world proceeds not gradually and evenly to definite ends, but in leaps and bounds. There are great epochs; supreme periods in our history in which after prolonged neglect the world begins to do hard thinking in a matter and often startles itself, not only at the direction, but at the suddenness and completeness of its conclusions. We are at such a period now touching the development of agriculture and the higher education of her people, and this accounts for the new order of things which we do well to analyze and endeavor if possible to understand.

Why have colleges of agriculture been established? On what foundation do they rest? What is their function in the education of the people, and how shall they discharge that function? What is the meaning of the demand for "agriculture" and for "nature study" in the common schools? These questions are upon us and must be answered.

It is insufficient to say that these colleges were founded to benefit agriculture and her people. There was a reason back of that. The world had stood some thousands of years without particularly troubling itself about agriculture beyond keeping a supply of slaves or of simple people to do the work of raising food for the people. Rest assured, it was neither sentiment nor benevolence that led to the establishment of these colleges, but it was the natural result of new conditions that came into the world and commenced to bear fruit about one hundred years ago.

These new conditions were due to the development of science. In ancient times men of intellect had concerned themselves principally with a kind of introspection that developed a speculative philosophy, exceedingly convenient for meditation and for controversy, but without the slightest reference to the concerns of real life, and from the nature of the case limited to men of leisure. According to the conception of the times the affairs of the world about us are managed according to the freaks and caprices of the gods, or left to chance or the machinations of beelzebub. It was in these days that a successful farmer of Rome was cited to appear in court and show that he was not in league with the devil, else why should his crops yield more than his neighbor's and his cattle escape the murrain when theirs were stricken?

Before the great complexity of natural law man stood abashed. Attempting no analysis he believed none possible, and with superstitious awe as to the universe he turned his mind in upon itself and shut out the world. Then came the darkness; the long silence of the middle ages; that millennium of lethargy like the sleep of death, when all that had been gained seemed lost.

But what an awakening! It was an awakening out of the realm of speculation into a world of reality and fact. Man began to look about him and to inquire as to how the world is put together and according to what principles it operates. The earliest researches of physics, chemistry and biology established the great fact of law, order and system in the material world, and it soon became evident that the results of scientific investigations were to become of stupendous practical importance, not only in broadening the range of human thought but in improving the material conditions of life. Superstition and prejudice gave way to belief in law and external principle; and the disposition to inquire into the nature of things about us resulted in the beginning of an industrial development such as the world had never witnessed.

Agriculture early felt an impetus from scientific discovery. As the chemist succeeded in comparing the composition of the crop with that of the soil and of different soils the philosophy of fertilizers became apparent, a basis for rotations was established, and farming became more than handicraft. As botany, zoölogy and physics developed along their special lines, they too shed light upon many a knotty question in agricultural practice and suggested new and hitherto unheard of fields for research. For the first time the productive occupations received serious attention, and as their developments, due to scientific investigation, began to afford scope for the intellect they engaged the brightest minds and speedily rose above the capacity of the ignorant and

stupid. The effect of all this was a pronounced disposition to study agriculture from a scientific basis, and societies were formed for this purpose, both in this country and in Europe. The result has been the reconstruction and rationalization of the agriculture of the civilized world and the demand that its principles and practices be taught in our colleges.

Another influence contributed to the establishment of colleges of agriculture and indeed of the so-called industrial schools in general. Under our system of free public schools the banker's family are classmates with the son of the blacksmith; the children of the merchant, and of the mechanic, of the lawyer, the physician and the farmer are educated side by side in the same classes. They read the same books, value the same problems and draw their inspiration from the same teachers. The result of this democratic system is that people of all classes and every profession have come to feel the benefit of learning and to solve education both for its own sake and for the power it will give. We have therefore in these days come to look upon learning not as a mark to distinguish the leisure class from the common herd, but as the inherent right of every citizen as a preparation for life. What more logical therefore than the contention, that this educational process be conducted with at least some slight reference to the occupation of men?

It was in response to this almost universal feeling that industrial schools came into being, among them colleges of agriculture. These are the causes that led to their establishment, now what as to their function and methods of instruction and what as to their standing among the schools?

Immediately upon the organization of these schools there arose questions that led to endless discussion, discussion which served principally to obscure the question and confuse the issues, and to delay for a generation or more the establishment and conduct of these new institutions on a basis that would discharge their proper functions to the industrial classes. Industrial schools of all grades sprang into existence with as great a variety of purposes. Some only aimed to teach handicraft, like wood working in the manual training schools; the agricultural schools of Europe were principally apprentice schools for peasant boys and some in this country were modeled after the same order.

To add to the confusion, about this time a foolish sentiment took possession of the public regarding penal institutions. What had once been called a prison came to be known as a reformatory. Those for young offenders soon developed into reform schools and a little later into industrial schools, the very watch words under which the discussion had been conducted that led to the establishment of the new order of educational institutions for the benefit of the industrial classes. As an example of this degradation of the King's English the General Assembly of Illinois found it necessary to rechristen our own University, a thing that cost us many years of delay because of the misunderstanding involved.

But aside from all that, how were the friends of industrial education, of higher learning and better advantages for industrial people to unravel this hopeless tangle, obtain this respectable standing and support for these schools and develop methods of instruction that would be most useful and economical? Some of us know what this question means and what its solution and answer have cost.

I am glad to record that the severest critics and even the bitterest enemies of these schools were kind enough to absolve them from confusion with penal institutions; but the manual training school, as they understood it, and others in which handicraft was the only or chief object gave opportunity to club the entire lot as "trade schools." It was then easy to assume that all industrial schools, including colleges of agriculture, were destitute of the idea of education in its true sense of the term and were to be conducted as training schools for the industrial pursuits.

Their advocates, however, were insistent that the colleges of agriculture and of engineering were something more than training schools and that they must stand for the education of a distinct class of people, and for a certain development of their industries through careful study of the principles involved,

They insisted too, that there is educational value in the very materials of these great professions, and while this learning of the student should not be limited to the subject matter of his calling, yet that there is a liberal education in the persistent study of the scientific principles involved in those industries that lie exceedingly close to the great heart of nature and feel its pulsations in unison with the throbbings of the human heart.

It is generally admitted now that the study of the sciences lead to a developing of the mind as truly educational as that resulting from the study of the classics—different in character to be sure, yet none the less a development; none the less potent for effectiveness afterward; none the less valuable therefore, for what is the aim of education if not to develop all the faculties and to increase the efficiency of man? Tell me now, do these same sciences lose their disciplinary effect, their educational value when studied in their application to the great industries of life? I think not. Educated industry is science at work and in modern times we study things in their activities rather than in the abstract.

We no longer pursue studies simply for their disciplinary value. The growing tendency is to regard all study as disciplinary and all subjects when properly studied is contributing to mental development and assisting in establishing that orderly activity of the faculties that we call education. If this be true, then the facts and practices of profession do furnish subject matter for part of one's education; and the educational value of a great principle is not destroyed if it happen to have a utilitarian application. If it be not true, then will industrial training make skilled artisans but narrow men. Then must a man escape from the industries to become educated; then will occupations necessary to our civilization remain undeveloped and the minds of the people ignorant. If this be true, then may the industries be developed and the industrial people be elevated by these schools, and while they are trained, educated. No thinking man can honestly deny that industrial progress in this country, especially along engineering lines, has engaged the attention of some of our most brilliant and educated men. Nobody can deny either that the study of the principles and problems of their occupation has contributed in no small degree to their education and to their peculiar efficiency. Neither can it be denied that this study has resulted in breadth of view which is the supreme test of education, so that education in and for industrial pursuits is educational in the proper sense of the term.

All this is rational and consistent with our institutions, because in these utilitarian days every man has an occupation, and even the classics are now pursued with a view to employment as definite as that in the mind of even an engineering student. There is no "general education" except to learn to read. It is all particular and in a sense special. The old phrase, "learned professions," as applied to law, medicine and theology, have lost their significance, and it is well, for is not the engineering skill of the country at least equal in rank with the medical practice? And are not the engineers as individuals as well entitled to a place in the ranks of educated men as are the physicians? We might multiply instances and go farther in comparisons and yet remain well within the facts. The engineers and the physicians were alike educated almost exclusively through the subject matter of their profession. Did that matter lose its educational value when studied with a view to practice?

The greatest difficulty about our agricultural colleges has been that they were novelties in the educational field, and nobody knew quite what to do with them. When conducted as schools of handicraft they did not educate; and when the attempt was made to graft them upon the classical course under the plea of acquiring a general education as a foundation stock, the graft withered and gave up the ghost and men said that the farmers do not desire an education; that they want to be left alone in the mud with their pigs. They said the same as to the mechanical arts, but the active mechanical development following the civil war carried the siege by storm and engineering schools worked out their special problems rapidly. After a time it occurred to some one that the sensible thing to do is to organize colleges of agriculture so as to educate the man from the standpoint of the farm, and from the first it was successful.

The well conducted college of agriculture of the present day, does not exist for the sole purpose of teaching from practice, but rather to educate the farmer partly by means of the principles and the practices of his profession, and partly from the common stock of human knowledge out of which all men must be educated. As education is information and ability to use it, so the only questions now before these colleges are two; first, how to conduct the technical instruction so as to impart information as to fundamental principles, and at the same time to educate the man; and, second, how much that is not technical must be studied to insure that his education, which is his development, is not narrow, but broad and liberal. In this connection I beg of you remember now and always, that all education is technical to somebody, and that all subjects are broadening to everybody.

At the University of Illinois, it is maintained as sound doctrine that one-half the subject matter out of which a useful man is to be educated should be drawn from the profession he expects to follow, and the other half from the world at large—from the professions of other men if you please.

Nor is the writer blind to the fact that as certain medicines have a specific action upon the body, so certain subjects, as mathematics, have each their characteristic action upon mental development; but the same is true of all subjects; none are exclusively disciplinary; none are destitute of educational value, and a man may be educated upon any one of many plans. Many occupations may afford the avenue to his development and many classes of subject matter may be emphasized for his instruction. On these great facts the colleges of agriculture base their claim to rightful existence and their hope for ultimate success, together with the belief that they have a respectable future in the American system of public schools when for all time they will exert a potential influence upon the educational policies of this country.

But the college is not the only point of contact between agriculture and the school system. We are hearing much about "agriculture in the common schools." There has been a little disposition to laugh it out of court, but not much. For the most part it is taken seriously by people of all classes with a disposition to ask what it means and what will come of it. It is worth while to analyze the conditions that have given rise to the call for agriculture in some form in the common schools.

One of the most common sentiments abroad in this State is that if a father wants his boys to stay upon the farm he must be careful not to give them too much schooling. It is useless to dispute or attempt to evade the fact. It must be reckoned with, for this belief is held by large numbers of our best citizens. No remark of a father is more common than this: "If I send my boy to your college, will you agree not to spoil him?" Now, what is meant by that, and what has given rise to this feeling and made it prevalent among the most intelligent farmers of the world? There is a reason for it and that reason must be discovered and removed, for the result is serious whether the opinion be true or false. If true, then something is wrong with our schools.

It is not that our farmers are opposed to education, because they are not. No other large class educates its children so uniformly well, and yet there is the feeling that it is not safe for the boy, at least to have too much contact with the schools. If you will follow up these opinions and ask reasons you will be furnished long lists of young men who were contented and prosperous until some way they became discontented at school and are filling all sorts of minor positions where there is no reasonable prospect of advancement. So true is this that the world has come to say: "If you educate a man he will not stay upon the land;" the farmer retorts: "Then I will not educate to the danger point." Within a month a prominent farmer of this State bemoaned that present conditions had not obtained when his two boys were of college age. His daughters are finely educated, but as he put his mouth close to my ear he partly whispered and partly hissed, "I did not do it with the boys, for somehow the schools put loose notions in their heads." He is a strong friend of our college because he believes that here is a place where a young man can become educated without losing his self-respect as a farmer.

Now these people are right in their fears, first because of the numerous instances they can cite and second because a close analysis of the genius of our secondary schools will establish the conviction that if they had been especially designed to draw young people away from farm life they would not have been very different than they are.

The instruction of the very young, that primary impetus that fixes the trend of things forever is almost destitute of allusion to the great world of plant and animal life that lies about us and with which the farm boy has already some acquaintance. Mathematics, geography, history and literature, these are the materials out of which the young and plastic mind is to draw the food for its development. Now these are good fundamentals if only they were representative, but as taught in the books and taught in the schools their reference to the ordinary affairs is so slight as to give the student a most distorted conception of things. Consider the young farm boy and his arithmetic. Herein he is informed that if an apple be cut in two pieces each is called one half. If one barrel of apples cost three dollars, what will twelve barrels cost? Now that is well enough, but did you ever see a school problem like this? If one apple tree bears twelve bushels of marketable apples and seven bushels of culls without spraying, and another that was sprayed bears sixteen bushels of marketable apples and but one bushel of culls, what is the benefit of spraying when marketable apples are worth three dollars a barrel and culls ten cents a bushel? The disadvantage in this problem is that the teacher might be called upon to explain what is meant by spraying, in which event as I see it, the thing contains the rudiments of a liberal education for both parties. This poor little youngster wades through partial payments to a degree of complexity never met in life; he learns the mysteries of true discount, a thing that has no existence outside the books, and after it is over has but the vaguest idea of how a note is discounted at bank. As if to add insult to injury and as the very supreme of irony he learns to jettison a ship, out here on the prairies a thousand miles from sea. When it is over he could not make out a bill of lumber for a barn if it was to save his life, and the chances are that he could not tell his father how large to make the crib to hold his corn crop, nor even be able to estimate the total yield. I want to say to you that out of the materials of a boy's life he should draw the problems for his education, not all of them, but a goodly share of them. He should work the problems of other lines as well, but in the name of common humanity, I protest against that artificial system of education that invents such monstrosities as true discount, and I protest equally against a policy that ignores any great calling and keeps its problems out of the schools thereby giving the young distorted impressions of the world, as it is.

This boy gets no relief from his reading. The literature of the schools is largely classical. The American farmer and his affairs are ignored as completely as if they had no existence. Everywhere the tenant of the land is called a rustic and the boy learns how the world looks, or is supposed to look, at his father and his profession, and resolves then and there to escape a similar fate. The poor boy does not know that farming and farmers have progressed since the middle ages, even in the matter of public esteem; he does not know that of all men the literary hacks know least of the world, and he does not know the day he leaves the land that in all human probability he will never see the day that he could buy back the share of the homestead that he would naturally inherit. He does not know that he has permanently lessened his opportunities for usefulness to become a cog in another man's mill, or a wheel in the machinery of a great corporation as easily replaced when he wears out as is any other repair.

The history which he is asked to learn is a record of wars for governmental supremacy, but he is not informed as to what ideas gained supremacy as the result of war. It appears to be written largely to glorify military leaders, and these are held up to the boy as models for his imitation. Along with these, other men of prominence are written up for his dilectation—not the man as he actually lived, labored and suffered, but as he appeared to the fervid imagination of the author at and after his triumphs as if his whole course of life had been shaped to that supreme moment when perhaps he

sank a fleet or realized upon a fortunate speculation. This poor deluded boy is told to aim high; that it is better to shoot at the sun than at some earthly object, for even if the arrow fall short it has had a glorious flight.

We all have heard this arrant nonsense until we are sickened by it. This is what is taking some of our best boys from the land; this insidious doctrine is eating like a canker into the minds of our little ones from the time they enter our schools, except, as is often the case, the teacher, wiser than the books, takes the boy gently but firmly by the hand, draws him aside and tells him some things. If he does his duty he tells him that it is vastly more suitable to aim at a woodshed and hit it than to be shooting at the moon and wasting his ammunition. That it is better to undertake the possible, and to do it, than to make a fool of himself by attempting the impossible; he will tell him that all these great men were unconscious of their greatness, but did the thing at hand in the very best way possible at any cost of labor and of time; he will tell him that they appeared to their fellows very much like ordinary people and in their time had their full share of opposition and their full quota of enemies; he will tell him that the world never worships a man until he is dead or until he has spent a lifetime at the hardest work; he will tell him that the men who are making history for the next generation of boys to read are among us now almost unnoticed, some of them perhaps in the very neighborhood; he will tell him that ordinary success is extremely difficult of attainment and that there are really great men all around him whose methods are worthy of study and whose lives are models; he will tell him to study these people who are at hand, to begin where he is, to go and do likewise—if he can, and that if nature meant him for some historic deed she and she only can bring to pass those fortuitous combinations of circumstances that only can bring it about.

This is the real meaning back of the demand that agriculture should be taught in our common schools. Nobody wants them to become training schools for agriculture, but we want them tinctured with an agricultural flavor; nobody wants to replace the text book on arithmetic with one upon horse breeding or soil physics, but we believe that agricultural topics and the affairs of the farm should constitute a fair share of the material out of which the boy shall be educated, and by which his opinions and his sentiments should be found. Nobody wants to withdraw from the schools anything that is found in the world of human activity, as it actually exists, but we who have devoted our lives to agriculture do desire that the facts and truths about all occupations, especially agriculture, and all representative classes of people, especially the owners and tillers of the land, shall be correctly reflected in our schools. Nobody would detract from the glory of our heroes nor from the credit due successful men in the business world, but we all want success depicted in normal colors with shadows as well as in high lights, believing that thereby the boy will be more appreciative of the genuine article and far more likely to make his own life successful by such painstaking beginnings as only can fit him to succeed.

It is not text books in agriculture that are wanted, but rather an atmosphere of agriculture and of other industries running through the machinery of the schools. "Hold a mirror up to nature," is gospel truth for the teacher, and that is all we ask of the schools or the book writer and that is all that is meant by the agitation about agriculture in the schools.

The contention is that in the schools we must educate, not train for a profession; but every subject that can possibly be taught is somebody's profession. The old time studies are not the only fundamentals. They are simply first in the field and have priority of right only by squatter sovereignty. Surely science is as fundamental as mathematics, which is also a science; chemistry, physics and biology come as close to the great facts of the universe as does history or the different forms of expression which we call the languages.

Schools are repositories of human knowledge set in order for teaching to the young, that they may become better fitted to live in harmony with their surroundings and to avail themselves of the advantages of our civilization that has been built up by the best thoughts of the best men of all time and at vast expense of labor and blood and treasure.

As all real knowledge is useful in the world of affairs and profitable to the individual that comes in line with it, so should all knowledge make its way into our schools and become the avenue for instruction. Further, the more completely the store of material used by the schools for instruction corresponds with the stock of human experience outside, the better able will the student be to take up the burdens of life, the more evenly will our many occupations be fostered, the better will they be coördinated, and the more will our several classes of people be benefited by the public school system.

Naturally the schools are behind the activities of the people, for things must be proved before they are to be considered as belonging to our stock of knowledge and fitted to be taught the young. But when a thing is proved; when a new fact or principle is discovered, no matter what it is nor where, all the world is entitled to know it, and especially the young, who have their lines before them. It makes no difference whether the discovery be in physics, chemistry or painting; in the authorship of a literary gem; or the secret of the success of a military campaign; in the construction of the truss or a new method of tempering steel; in a triumph of agricultural genius or how to make two blades of grass grow where but one grew before; whether it be a symphony, or a new bacterium to ripen cheese; a new method of telegraphy, or a method of producing better meat; whether it be a new fact in breeding, or a better variety of fruit. I repeat, "the world is entitled to know it, especially the young." There is advancement in it; it will contribute to the education and the effectiveness of the next generation, and somewhere on earth it should be found in the schools.

But it is said, we must train and develop the young mind by exercise and it must study the beauties of literature and the processes of logic and philosophy. True, but good friend remember that the beauties of literature consist not in what is written, but in what it can arouse in the mind of the reader; remember too that logic and philosophy are but the method of the mind in handling the material it is possessed of, and I beg you give this little mind abundant material with which to work. Do not let it "run empty." Develop him by the aid of whatever the world knows; in sympathy with every calling and every fact that is useful, and out of his environment train him, so shall you do your duty and the little one be educated.

Mr. J. L. Hartwell moved that it be the expression of the Illinois farmers that we should have practical farm topics taught in the public schools, especially the rural schools. The motion was seconded, and referred to the committee on resolutions.

Song, entitled, "The Coda," was then rendered by the High School Chorus, followed by a reading by Prof. Chamberlain, "Thoughts for a discouraged farmer;" and two other short selections.

Professor Bayliss then addressed the convention, as follows:

LADIES AND GENTLEMEN:—If any farmer here present should go home to-night, anxious to do something for the benefit of the common schools, in his neighborhood, and is at a loss just what to do first, I beg him to go in on general principles and hold up the hands of his county superintendent. The county superintendent of schools is probably the most important and hardest worked man and the most inadequately paid of all our county officials. He is the leader upon whom the farmer must chiefly depend for any improvement which can be made in the country schools. He is, to the rural schools especially, our true educational captain. Now I know that those here present will be pleased to know that the latest thing to be placed to the credit of our county superintendents acting in their combined capacity is an arrangement for a systematic series of lessons in nature studies, which will be a good beginning of the work which has been placed before you this evening. The state has certainly made a magnificent appropriation for the agricultural college of Illinois. I am glad that this organization is so proud of the large share it has had in bringing that about. When the college shall have been completed, and when the lady who addressed you so ably and eloquently this

afternoon shall have been installed at the head of the department of domestic science in the College, I think it will then devolve upon the farmer to "do the rest," the county superintendent and the State having "touched the button."

SOME BY-PRODUCTS OF EDUCATION.

About 20 years ago, more or less, a society of Illinois school masters, which in those days met every summer, chartered a steamboat, which was engaged in the lumber trade between Chicago and Traverse City, Michigan, and held in the latter city the most unique, and perhaps the most profitable, meeting of Illinois pedagogues ever held.

One feature of the meeting was a side trip across the beautiful bay, to the little village of Elk Rapids. It was on the fourth of July, and after the serious work of the meeting had been accomplished. These school masters were "abroad," as I remember it, at least in another state, and many of the "conventionalities" were for the time being in abeyance. They were out for a good time, and had it.

No two persons who were on that excursion have ever, or, at least hardly ever, met since without reminding each other that they were at Traverse City, and the second question each asks is, quite invariably, "Were you at Elk Rapids?"

Now there is nothing at Elk Rapids, except what we called 'at the time, "the chemical works," but which I always remember, as a smoke factory. This smoke factory, or "chemical works," if any of you prefer the more sounding appellation, was managed, and largely owned by a retired school master, who apparently took special pleasure in showing us about. It seems that he has quit school work, for the same reason that so many men of enterprise have abandoned it, lack of pecuniary appreciation, and had taken to the woods. There he undertook to compete with the charcoal burners who provided for the blast furnaces of the locality. Of course teaching school is an easy proposition, financially speaking, compared to the primitive method of preparing charcoal, and our friend very soon found it out. He could produce a better quality of charcoal than the men who were there before him, but for a time he couldn't make it pay. To shorten the story, it occurred to him, at last, to save the smoke. This he had just begun to do successfully at the time of our visit and the fortune he sought was in sight. He was then making charcoal at the rate of about 50 tons a day, and instead of wasting the vast amount of smoke, he was driving it into stills surrounded by cold water, the products of condensation being, first, acetate of lime; second, methyl or wood alcohol; third, tar; and fourth, gas which was consumed under the boilers.

Each cord of wood produced 29,000 cubic feet of smoke. The 2,900,000 feet of smoke handled every 24 hours, produced 12,000 pounds of tar, all of which had a market value and were clear profit.

The utilization in manufacturing industry of what used to be waste is not now an uncommon thing. It has been the foundation of many fortunes. This particular instance seemed more remarkable to me then than it does to you now.

It has seemed to me very often that much of the work of the school has heretofore "gone up in smoke," and that we must make a more strenuous effort to save the possible by-products of education if we would pay dividends, so to speak, on the "common stock."

There is so much to be done by the school, and the resources seem at times so small, that economy of products is certainly a good business principle, and it is of some possibilities not always realized by our training that I wish to speak.

EDUCATIONAL IDEALS.

What is the product at which the school as a social factor aims? In other words, what is our educational ideal? I shall not attempt to define it in specific terms. It would be impossible to frame a definition today, that its author, even, would accept tomorrow. It will remain impossible until civilization becomes stationary and the human race ceases to progress. Individual and social ideals alike recede and change as we approach them. It is a far cry from the tattooed and painted savage, defending himself with his ball of flint secured by a cord of braided thongs, to the admiral directing the movements of a modern warship by merely touching an electric button. From the discoverer of fire to the inventor of the steam engine is a space too great for men of feeble imagination to think clearly. Even from Magna Charta to the fifteenth amendment to the Constitution more than one great step is included. So with progress in education. Alexander the Great loved and revered his teacher, Aristotle, and is said to have declared that he was indebted to his father that he lived and to his teacher for training him to live well. Aristotle was the intellectual Alexander—the most profound thinker of the ancient world. He, like Lincoln, considered education the most important and difficult of problems. But his educational idea, compared with that of Horace Mann, would be a dwarf to a giant. For Aristotle's ideal of education never embraced more than a wise training for the classes. Why should women and slaves be educated? Horace Mann's wider vision included a scheme of education broad enough to cover every child born into the world. We live in a period so full of material and intellectual achievement that it has been called the "Wonderful Century." But its greatest discovery and crowning achievement is the common school. To the ancient mind the idea would have seemed "such stuff as dreams are made of." So it is not wise to attempt too great precision. It will answer our present purposes to say, in general terms, that it is the function of the school to so train the young as, while developing harmoniously all their powers, physical, mental and moral, to fit them to be of the greatest possible use or service to themselves and to the community; in other words, to lead them to form, and strive to attain, high individual ideals which shall be in harmony with the constantly enlarging social ideal; or, still more briefly, to do their level best with their God-given talents—one, two or five, as the case may be.

THE SCHOOL AS A SOCIAL FACTOR.

I do not want to magnify the school. It is easy, especially so for a teacher, to fall into this habit. The school is not a social factor of elementary rank. The family is. The training of the young is primarily the duty of the family. The school is an economical, perhaps an indispensable, co-adjutor. The family is the social unit. In the evolution of society the school at most is but a strong second. This is especially true in relation to some things I shall say bye-and-bye, but in all ways, harmony between the two institutions is essential, and the school should be rated as what it is—the agent of society doing the work of the family. The two together, family and school, represent the chief process by which the life current of the nation is to be maintained and from which are to be assimilated the materials of its maintenance and growth. From this point of view, therefore, I need have little to say of courses of study, nor of other matter of mere "technique" concerning which there is so much hair-splitting controversy when two or three of the trade are gathered together.

CONCERNING METHODS.

This much may be said about any school. If in the process of its daily routine it does not cultivate and quite generally establish good, practical, business method, it is not a good school. There is smoke wasting, and certain products for which there is a constant demand in the open market are wasted in it. The first duty of every man to society as well as to himself, is to get a living. Food, shelter and clothing are the fundamentals of civilization. Self preservation is the primal, elder law of life. How the school does

its work has a much more direct bearing upon this problem than any study, even bookkeeping. Latin or Sanscrit could be so taught, by a master, as to develop bread-winning qualities, while book-keeping or the common rule of three could be so taught by a bungler or a novice that the victim would be handicapped not only in this life, but through all the endless hereafter.

So, I have no purpose to weary you with a discussion of mere methods. The method of a school may be socratic, inductive, deductive or composite, and be at the same time either good or bad. It must be rated by its products, and chiefly, perhaps, by its by-products.

THE HABIT OF PUNCTUALITY.

For example, how high would you rate a school, in a scale of 100, which failed to develop and fix the habit of being on time? There are in Illinois 102 county superintendents of schools. They are public officials elected by the people of the several counties to discharge difficult, important and arduous duties in the service of the schools. As a class they are energetic, competent and assiduous public servants. They direct, assist and inspire the devoted teachers who bear the burden and heat of the day in the school room. They encourage the faithful, prod the laggard, and to the extent of their courage weed out the unfaithful. They are generally underpaid, often unappreciated and almost always overworked. If you want to help the schools in your neighborhood, and don't know what else to do, hold up the hands of your county superintendent. He is your true educational captain. The State Superintendent is only his confidential clerk and adviser. Now this important educational officer is required by law to file annually, on the 15th of August, a certain report of his official acts and the condition of his county. He knows that time is of the essence of the value of this report, and he knows further, or is generally finding out, that the receipt of his per diem depends upon its appearance. Yet it is a significant fact that 33 superintendents were behind this year from three to forty-one days. What shall we expect of the sergeants and corporals, not to mention the man behind the guns, if the captain is a laggard?

A very excellent school director, then one of my employers, once asked me if I did not overestimate the importance of punctuality. I said I thought not. He suggested that there might be other matters of greater educational value. Possibly, I said, but if so I don't know what they are.

A sentimental young man once wrote in the album of a young woman he liked pretty well, "May you arrive in heaven late." He meant all right, but another married the girl almost thirty years ago, and she's on earth yet—looking as young as her daughters at that!

"Why is it," said a newspaper reporter to the great admiral the other day, "that you are always ahead of time?" "When I left Annapolis," the admiral replied, "I discovered that the men who succeeded were generally ahead of time. I made up my mind that about as good a rule as I could follow was to always be at least five minutes ahead of the time expected. The man who is always early never misses what those who are late do, and besides that he may gain by being on hand to take advantage of the unexpected, and you know how often the unexpected happens. I don't think I plan to be ahead of time so much as I simply follow the habits of years. The best advice I could give a young man, however, would be: 'See that your task is done—well done—a little before it is expected that it will be complete.'"

Likewise the hero of Trafalgar: "I owe all my success in life to having been always a quarter of an hour before my time." So the "method" of a school may be "pedagogical" to the last degree, if its pupils are not trained to be on time with whatever work they have to do, there is an important by-product wasted—gone up in smoke, so to speak.

INDUSTRY.

Punctuality implies both economy and industry. A distinguished citizen of Southern Illinois, who has served several terms in the Legislature, and at least one in an important State office, said to me the other day: "The land for 15 or 20 miles in three directions from my town is fertile and under cultivation. It is divided up into 80 and 160 acre farms and not one of them is occupied by a native born farmer." He did not mean, of course, that they were all owned by foreign born citizens—yet. But what he said reminded me of the rich farmer who had a lazy son. The farmer died, and the son soon had the farm mortgaged. He sold one-half of it to pay off the mortgage and then leased the other half to an industrious foreigner for ten years. The lease expired. The tenant asked the owner whether he would sell the farm. "Why, you don't want to buy it, do you?" "Sure, if we can agree on a price." "Well, that beats me. I couldn't keep out of debt when I had the whole farm, rent free. How is it that you can pay rent and make enough to buy me out on half of it?" "That's easy; you sat still and said go; I got up in the morning and minded my business."

That is an old story, but it is happening around us here in Illinois every day. If the school and home together do not develop, foster and fix in our sons and daughters the habit of industry, the smaller the estate you leave them the better. It is as true today as it was 3,000 years ago that "The hand of the diligent shall rule; but the slothful shall be under tribute." "He also that is slothful in his work is brother to him that is a great master."

ECONOMY.

So also with economy. "Gather up the fragments that remain, that nothing be lost," was the injunction of the greatest of teachers. Economy is the conservative virtue. Prudence is her mother, temperance her sister, and independence her daughter. The man who lives from hand to mouth, that is up to his income, will sooner or later go to the wall. In this respect there are but two classes of people in the world, savers and wasters. The building of every cottage, palace, cathedral, locomotive or ship; the weaving of every garment, the maintenance of the world, is in the hands of the savers; the suffering and sorrow, the weakness and sin, are the penalty, broadly speaking, of man's self-indulgent perversity and wastefulness. "The rich are growing richer, and the poor poorer" is as false as any other half truth. As long as human endowments are unequal, conditions surrounding men will remain unequal. It is true that the rich are growing richer. It is also true that the poor have a better chance than ever before in the history of the world. The ratio of improvement is apparently unequal. The palace of Dives and the hut of Lazarus are still too often in juxtaposition. The problem of society is to make the ratio of improved conditions fair. The expenditure of money for things which perish with the use, or for "keeping up appearances," or even for "riotous living," if less in degree, may be as possible in kind for a poor as for a rich man. Fortunes must be unequal, but as Lincoln said, "Let no man who is homeless pull down the house of another, but let him work diligently to build one for himself, thus by example assuring that his own shall be safe from violence when built."

PERSEVERANCE.

Our schools must develop and fix the habit of perseverance. The power of patient persistence is genius, and there is no other genius worth consideration. "Time and patience," says the old proverb, "change the mulberry leaf to satin." Limber trees are the children of the centuries. To know how "to labor and wait" is the secret of a successful life. Some one who was describing features of Henry Clay wound up by saying: "As for his mouth, that can speak for itself." But notwithstanding the generous proportions of that organ, the "great commoner" declared that his power as an orator was the result of daily reading and speaking upon the contents of some historical or scientific book,—continued for years. "These off-hand efforts," he tells

us, "were made, sometimes in a cornfield, at others in the forest, and not infrequently in some barn with the horse and ox for auditors. It is to this early practice of the art of all arts that I am indebted for the primary and leading impulses that stimulated me onward and have shaped and moulded my whole subsequent destiny."

"I'll fight it out on this line, no matter if it takes all summer," said the silent man of Appomattox."

COURAGE.

Closely allied to persistence is the quality of courage. The school regime is more or less uniform. Its exercises are regulated. There are few tests of mere intrepidity. The tests of interrogation, oral demonstration at the blackboard, in the presence of class-mates who are not always charitable critics, occasional appearances before strangers, all tend to induce and strengthen resolution. They are in the line of duty, and perhaps it is only by and through the development of a fine sense of responsibility that the school, in the absence of those incidents of life which amount to tests can be expected to develop the quality of mere physical courage:

Nor, in speaking of courage, do I refer merely to those qualities that make a man brave in war. The average American soldier is intelligent, alert, obedient and brave. His personal qualities are equal to those of any men of any nation. Recent events have demonstrated that the quality of our young manhood is not deteriorating. But as Von Moltke replied to a panegyrist, "Great conquests are essentially the result of a state of things which we can neither create or dominate." God sways nations as man sometimes moves man.

"When He moves His arm, it is to aid
Whole peoples, heedless if a few be crushed,
As some are ever, when the destiny
Of man takes one stride onward nearear home."

But there is heroism in common life, the heroism which is but another name for the courage and strength which is synonymous with virtue. Vir—man. Vitus—strength—courage—excellence—worth—merit—Virtue.

This is the courage of every day life. Its tests are simple and plain, and the school should develop it. One who has it will be just to, and considerate of others; he will not be puffed up by success, nor cast down by adversity; he will have charity for the failings, the errors, and even the meanness of others; he will bear malice to none. He will have mercy upon his neighbor who has fallen among thieves; he will be kind even to his beast. He will recognize the rights of others as well as insist upon his own. He will honor the courage of the powder monkey without discounting that of the admiral of the fleet. He will know that no man need be a slave either to environment or heredity. With him no catastrophe in life will be considered final.

The watchword of this type of courage is Duty. It manifests itself in a thousand ways. Sometimes it raises even to the heights. Even in war it is not perquisite of the leaders alone.

"They are plucky lads," wrote a newspaper correspondent quoting the words of the Commissary General, of some of our boys in Cuba, "as fine fellows as I want to see. Look at that slip of a boy. His hands are as soft as a baby's. He came here from a bank or a store, and never before so much as handled a log of firewood. Yet he is slaving here like a convict, all because he knows that unless he does his full duty the lads on the firing line will have to fall back for lack of rations. But the boys in front will get all the newspaper glory. You fellows write them up as heroes, but here are the heroes. Just over there is yellow fever. Overhead is a killing sun, and yet those lads never whimper; they never beg off, but work straight through the day, and they are as much heroes as Teddy Roosevelt or any of them."

On a cold morning last winter a boarding house in Springfield was suddenly enveloped in flame. By the time the firemen were at hand all the people were out of the house. A young woman screamed, "My father will be burned to death!" But no man dared to venture through the flames. The landlady

knew the old man was bed-ridden and helpless. Dashing by the men who would have held her back, and disregarding their shouts she rushed into the fire, made her way to the old man's chamber and fell, smothered and choked to death, across the threshold.

A high railroad official, addressing men who could understand him, once illustrated duty somewhat this way. "Labor can be bought and sold, but loyalty is priceless and its mainspring is duty. A man plows with his engine through a snow storm, moves slow, heavy freight trains, performs work at every station, operates his engine by day and night. That is labor, and is paid for. His work is sold at the market price. A man stands for thirty seconds with nerves like steel; one hand on the throttle, the other on the reverse lever, the brake set, the engine reversed, the sand running to make the brakes hold, a train of human beings behind him—he stands for them between life and death. That is duty. The wages of a lifetime could not buy that thirty seconds of nerve and strain."

That, too, is heroism. No life will be without its opportunities. The schools must so train our youth that they will have the courage to obey when duty commands.

GOOD MANNERS.

I imagine the man who should declare that the average American boy is remarkable for politeness, courtesy or even plain "good manners" would not by that token alone be rated as a keen observer. Still, I am willing to venture the opinion that we are gaining ground, slowly, in this particular, provided I may at the same time be counted with those who vote that there remains much room for further improvement.

If there is any other product of training which is equally sure to remain always above par in the open market of the world, I do not know what it is. Nor is there another which is so nearly a joint product of the school and home. Nor another which will add so much to the availability of other powers and qualities of mind and body. Manners are the color of life. They cost nothing, and will buy everything. For want of them a man may even lose that which he hath.

At one period of his life Robert Burns was the pet of aristocracy. A young Edinburgh blood took him to task for recognizing an honest farmer as they passed him in the street. "Why you fantastic gomerall!" exclaimed Burns, "it was not the great coat, the scone bonnet and the saunders-boot hose that I spoke to, but the man that was in them, and the man, sir, for true worth would weigh down you and me, and ten more such, any day."

So in recognizing and estimating the quality of politeness, it must not be forgotten that the genuine article knows no distinction of rank or wealth. From Major McKinley, or the richest Vanderbilt, down to the humblest little boot black on the streets of Chicago, it illumines and ennobles all alike. To all sorts and conditions of men, nature is equally lavish with her most precious treasure—a kind heart. There can, therefore, be no code of manners. There is but one rule and that in no way related to any of the mere accidents of life, such as swallow-tail coats, or the latest fantasy in feminine headgear—but it is "golden" nevertheless.

Gentle manners, then, the genuine article, count for very much, they include self respect and respect for others; they exclude all meanness; they have nothing to do with fashion, rank, or wealth, but are the outward and invisible signs of courage, dignity and good-will to men. Their possessor will not bluster, browbeat nor pretend; but in all things and to all men, be calm, considerate and truthful. They are the true heraldry of an order of nobility, entrance to which is every man's birth-right, and to which, school and home ought somehow to contrive to elevate him.

THE SOCIAL CONSCIENCE.—PATRIOTISM.

This leads naturally to the thought that both school and home should develop and train what may be called the social conscience. No man liveth to himself alone. "Am I my brother's keeper?" is an old, old question. The trend of modern civilization, as exhibited by the abolition of slavery, the elevation of labor, the spread of the idea of universal education, the growth of the doctrine that great wealth carries with it corresponding responsibilities, the demonstration that war itself can be declared and carried on humanely and for humanities' sake,—all declare that the final answer must be in the affirmative. The school must help speed the day by quickening the sense of civic duty and responsibility; for civic virtue and social virtue, if not the same are inseparable. In this sense, at least, it is true, as Leibnitz said, that "The masters of education hold in their hands the future of the world."

We are fond of calling ours a "government of the people, by and for the people." In the last analysis—occasional indications to the contrary notwithstanding—the phrase is accurate. When was Lincoln ever wrong. But, the government of an ignorant people by itself is as a child playing with fire. "Republican institutions," said Horace Mann, "furnish as great facilities for wicked men in all departments of wickedness, as phosphorus and lucifer matches furnish to the incendiary." That is, when they rule themselves, a noble people will be nobly ruled, and a vicious or ignorant people will just as surely be ignobly ruled. So our instruction in school, and the training of both home and school, ought to regard definitely and concretely the relation of the individual to the body politic. An American citizen lives under the best and freest institutions in the world. They have become so at terrible cost. The young American ought to love his country because of the unparalleled opportunity she gives him to be a man. He ought to feel a sense of his responsibility for the preservation and improvement of the work of the fathers. In other words, he ought to be a patriot. To this end, specific civic instruction may certainly be made to contribute. As the boy becomes the youth, and the youth approaches manhood, he may well study the constitution he is bound to obey. He ought to be taught it in such a way that he will leave the school with the idea that the voting privilege implies an obligation. More important than the specific provisions of the revenue law, is the relation of taxation to government and the spirit which pays a just tax with pleasure. I know this sounds a little fanciful. But patriotism is a peculiar virtue. It is, sometimes, of a "now you see it, now you don't" order. Because it may be perfectly genuine when it manifests itself at the sound of the drum and trumpet, or the call for a loan on long time with perfect security, it does not follow that other and far different manifestations are less so. It is a great thing that this country could have seven dollars and ten men for every man and dollar it needed in the recent emergency. We ought to be proud of our country for those things. But they are not all. War is but an incident in our national life, often necessary, perhaps even as the thunder-torm is, to clear the atmosphere. All honor to the heroes who die!

Nevertheless, civic virtue, patriotism, good citizenship, are, essentially, as necessary to the country in the weak, piping times of peace as "when the blast of war blows in our ears." Let me try to illustrate.

A year or two ago, I had a class in civics. When we had finished our work, I had the class make a sociological study of their own home city. I quote a paragraph from one of the papers:

"If we are proud of Streator, and wish to make her the leading city of Illinois, in excellence, if not in size, we must have *public spirit*. This is the spirit that will interest us in every question that concerns the public welfare. Then we shall be willing to go to town meetings and try to learn about our *home* government, and try to fill the offices with men who are not looking out for a sinecure. We shall hold it to be our *duty* to *vote*, instead of saying it would be more pleasant to stay at home. We shall have a genuine interest in *every* public work. It will concern us to know whether the pavements, the lights, the sewers are good, no matter whether they are near our individual homes or not. We shall be anxious to have a neatly trimmed lawn where our park now is, and to have flowers planted there, that those who can not own

them may come and enjoy them. We shall care for our roads (streets) enough to get out and pave them, and then *keep them clean*. We shall not then complain and groan at the small rise of taxes, levied to secure some improvements. We shall plant trees along the streets to make the city beautiful, as well as substantial. Each citizen will be ready to *serve* to the best of his ability in any capacity, whether the position be remunerative or not. He will not selfishly keep his mind on his loss, but will think of the good he may do for the city. If we are ambitious for Streater, we shall be liberal. We shall not close our ears to all arguments of our opponents, but will attempt to see the force of their views, with the purpose of deciding what to do," etc.

It seems to me that this girl writer had somehow attained a very fair ideal of good citizenship. If we can educate the masses up to that clear, well defined, and rather high standard, the Republic will suffer no harm. For peace is the ultimate condition of civilization. The federation of the world and the parliament of man are far-called, but coming. The clearest possible vision, conscience, "firmness in the right as God gives us to see the right," applied equally to the every-day-in-the-week, as well as to the larger obligations, are the requirements of good citizenship and intelligent patriotism. The training of the school must produce them in the interest of the state, the nation and the world, and like a certain old-fashioned virtue, they must begin at home.

HONESTY AND TRUTH.

The American youth must be honest. "Honesty is a better policy than dishonesty," said a witty statesman,—"I've tried both."

The extraordinary vitality of American industry in this closing year of the XIX century is not only the central theme of statesmen, politicians, and press at home, but it is "viewed with alarm," as the platform-maker would say, by our rivals abroad. A recent article of French origin calls the attention of Europe to the following facts:

In less than 18 years American exportations have trebled.

It is no more a Napoleon's conquest of the world by arms. The Yankees are doing it with work.

A revolution in the economic equilibrium of the globe is being brought about by the United States. It commenced in the Orient under England's nose by the introduction into China and Japan of American cottons, leathers, machines, tools and electric motors.

In India trains roll on American rails.

In Cape Colony the United States has introduced its iron, motors and tools and has founded factories.

The English were obliged to go to Philadelphia to order the construction of the great steel bridge at Atbara.

From Jersey City 300 wagons of steel have been ordered for the land of the Pharos. Electric cars are sent from Pittsburg to Cairo.

American rails and American machinery have invaded even Europe, and if the universal superiority of Uncle Sam continues to grow the commerce of the seas will soon be monopolized by him.

And then he says: "Europe need well be alarmed at the prodigious expansion of this new leviathan people. At the rate at which it is now going on, the Americans will have ruined all others before 20 years have passed."

I, for one, certainly hope this dismal foreboding will not be realized. It is the manifest destiny of this country to become the richest nation in the world. For a century and a quarter the name of America has been a synonym for opportunity. Under our free institutions we have prospered to a degree that makes it seem to be true that "God hath not dealt so with many people." May this prosperity not prove a curse in disguise! We do not want to be the "leviathan" among nations. For though the "arrow can not make him flee," and sling stones and darts are counted by him as stubble; "his nostrils emit smoke, his breath kindleth coals, and his heart is as hard as a piece of the

nether mill stone." Although "upon earth there is not his like," it shall come to pass that "In that day the Lord with his sore and great and strong sword shall punish Leviathan the piercing serpent,—even Leviathan that crooked serpent; and he shall slay the dragon that is in the sea."

No, the republic must never become a leviathan nation. Just as surely as the Columbia beat the Shamrock—as certainly as she has outgrown her glorious mother, we shall some day sing, instead of "Hail Britannia,"—

"Hail Columbia!
Mistress over sea and land;"

our glory will yet surpass

"The glory that was Greece, and
The grandeur that was Rome,"—

provided always, that we remain as a nation, honest and true.

I do not merely mean, the honesty that is the best policy; the honesty that would not adulterate food, or poison drugs, or sell shoddy for wool, oleomargarine for butter, or veneering for solid wood. The dishonesty that throws together soft brick, rotten mortar, green wood and bad plumbing, and calls it a house; the dishonesty that waters capital stock, repudiates honest debts, or packs a caucus; works as little as possible for as big a wage as possible, or embezzles a million and wrecks a bank, are all beneath contempt. "Make money, honestly, if you can; but make money," is not the motto of an honest man.

The school must do its work, and all of it, in such a way as to reinforce the home in the development of the fixed habit of doing all work on honor. Socrates, teacher of Plato, taught that the most excellent thing a man can do is to resolve on perfection in his own line, so that, if a statesman, he will be the best possible statesman, or if a carpenter, the best possible carpenter. I once knew an old carpenter who was building a cottage on a small piece of land he owned, to rent for a few years till the town spread out a little more and the ground should be wanted for a store building. He said to me one day, "Hang it, I wish I could slight this work. It is only a temporary structure and I know it, but I am putting it together to stay a hundred years." I believed him, for I knew the man and his habits. I have never known a man I respected more. He was not particularly poor, for he had been industrious and economical, as well as skillful, for many years, but he was such a man as Burns had in mind when he sung:

"The honest man, though e'er so poor,
Is king o' men for a' that."

Ner is the honesty that pays its debts and never "scamps" work the "whole thing." The ideal citizen must stand in the right, intellectual and moral attitude toward all truth.

I once stood, in a comparatively small danger, upon the vantage ground that commanded a battlefield, and watched the varying fortunes of the day, from morn till night. I saw the enemy gradually driven from one position to another, into his entrenchments and beyond the outer line of his works, then saw him reinforced and rally, regaining his ground, almost foot by foot, and holding it until night came and closed the affair. It has never been my fortune to witness any other spectacle quite so thrilling. The nearest approach was to stand by the shore and see ships tossed by the angry sea. I was once aboard a steamer on Lake Superior when it rounded Keweenaw Point during a violent storm, and have been in the ranks upon the battlefield. In either case the sensations differ in kind as well as in degree from those under the safer conditions of the wider outlook.

So it seems with truth. If we are in the valley below, or on the storm tossed vessel, the mists and tempests, the clouds and smoke and confusion, contract the range of our vision and make blunders no less avoidable than dangerous. Truth is the high ground from which we may best view the varying fortunes of the struggle we call life. It is the shore from which we may see the skilled and careful navigator bring his vessel safely into port, or the reckless and unskilled mariner go dashing against the rocks.

All the work of the school should be so done that some day the youth will stand upon the heights, so that when at times the smoke of battle breaks a little, as it does and will, he may get, through the rift, a better outlook over the field, a clearer notion of the conditions of victory and increase of hope, courage and strength.

THE CHILDREN'S READING.

A county superintendent wrote me the other day, asking me to advise him to remove a board of directors from office. He alleged that he is trying very hard to see that every last school in his county shall have, before the close of the century, a collection of good books for the children to read at home, and that this particular board not only declined to appropriate money for that purpose, but also vetoed the teacher's proposition to permit the school to procure one for itself, through the agency of a box, pie, oyster or composite supper, social or entertainment. For obvious reasons, I could not give him the advice he sought, but if I ever get within hailing distance of that body, it will give me pleasure to say to them: "Gentlemen, such a 'board' as yours is not worth as much as a respectable 'slab.' You ought to have held up the hands of that teacher and that county superintendent. They were trying to do the greatest possible kindness to your children, and to preserve for you, perhaps, the most important by-products of school education, a knowledge of, and a love for good books." Indeed I am not so clear that a taste for reading—of the right kind, of course—is a by-product at all. I am not sure but it is the chief product, from which the main product is to be derived. I am not sure but it is vital to good school teaching. That Board probably thinks that the product of the school is to be obtained by the obsolete method of cramming the growing mind with facts, in measured quantities, against time, prematurely, and then pumping it out again with a test pump or something. That board has not yet heard that Mr. Thomas Gradgrind is dead and buried. Whatever else we do, or leave undone, we must make the child master of the art of speech. Reading good books, in the right way, will do this better than anything else. It would not be a bad plan, in many schools, to stack the text-books for awhile and let the children read. Give them the novels of history, the great stories of the noble deeds of historic men, history, poetry, literature, a library. Geography, history, and the power of speech may all be re-inforced, acquired even by rightly reading just such books as a boy likes best. A love for good reading may not help earn bread and butter, but it will sweeten it after you get it. It is the highest of man's pleasures—a legitimate and powerful—perhaps even the most potent of all civilizing agencies. A school which does not train the children to read is not a good school. A teacher who reads nothing outside of the range of the text-books is not a good teacher.

THE SELECTION OF BOOKS.

I am frequently asked by teachers and others to recommend books, or lists of books. I generally prefer to suggest a principle selection. One of the best county superintendents in the State, a man who ranks "A No. 1" in his business, told me that he could distinctly trace an improved educational sentiment, a greater interest, not only in the intellectual life, but in the general welfare of the school, wherever he had been able to put a library in a school that had long been without one; and he declared that this effect is noticeable not only upon the children, but upon their parents and teachers as well. And this illustrates a good principle of selection. One county superintendent said the other day, in a conference of his class, that he would insist upon the use of nothing but "classics." If we accept that, the definition of "classics" ought to be very liberal. The book which helps the reader, makes him more intelligent, thoughtful and aspiring—meets the requirements. The test of a book is its suggestiveness, its helpfulness, its inspiration to a higher life. The teacher who can not apply this test is not a good teacher—yet.

THE COURSE OF STUDY.

But it must not be thought that I undervalue those things which come first to mind, when we speak of the studies of the school. There has been a tendency to apotheosize certain things,—arithmetic, for example,—against which, I think, thoughtful teachers are on their guard. The school curriculum has broadened immensely within recent years, and there is a tendency to confusion arising from the multiplicity of subjects. As a result, many minds are left in the condition of that of the young teacher who visited the home of Lincoln the other day. The custodian has lately come into possession of an autograph letter of Washington, which is generally shown to visitors, as an object of interest. This teacher, after studying it a few minutes, naively asked: "Did he write it to Lincoln?" This was no doubt, a result,—and a very natural one,—of a labored attempt to carry in mind a mass of waste material, in the form of disconnected and unimportant facts. Dr. Harris, the U. S. Commissioner of Education, has clearly pointed out the danger of overdoing in the direction of formal discipline. "The over-cultivation of the verbal memory tends to arrest the growth of critical attention and reflection." "So, too," he says, "the study of quantity, if carried to excess, may warp the mind into a habit of neglecting quality in its observation and reflection."

These things, among others which might be mentioned, we are trying to correct. Students of education are clearly aware of them, and they are fast breaking into the minds of the working teachers. They are problems which the pedagogues must work out for themselves. They belong to the "technique" of the profession, so to speak. What I plead for tonight, is, that after this shall have been done,—or rather while we are doing it,—we may so carry on the schools, school and home working together and in harmony,—that these homely habits, nay, virtues of punctuality, industry, economy, persistence, courage and fidelity; good manners, patriotism and honesty shall enter into and become part of the intellectual and moral fibre of our youth,—the men and women of the future; and that we may so teach them the art of reading that fewer and fewer, as the years roll by, shall shut their books forever, as the schoolroom door closes behind them for the last time.

We are teaching arithmetic and grammar and geography, and some times writing and spelling, a little, but we are training the human soul. We must not, therefore, in our zeal for the intellect, forget or neglect the emotions and the will. The educational reforms of the last few years seem to tend in the right direction. The closer attention to school hygiene, the physical culture, manual training, household economy; the remanding to the rear of the spirit of force and repression, and the exaltation of interest as a motive, all attest it. The schools are getting better, and the public opinion of their value as a social factor is yearly becoming more enlightened.

THE IDEAL SCHOOL.

The ideal school is the center of civilization. In it the children should be happy in the daily effort to meet every duty courageously, honestly, cheerfully. It will be, first, a place for the formation of character, the second, a place for teaching the maximum number of children to read and write. There are men who can write in Joliet and Chester, they wrote too much. Knowledge will take its true place as a means, and not be elevated to a false place, as the end of education. Formation will thus diminish the expense and need of re-formation. As a man of great wealth is considered a good citizen or a bad one, according to the use he makes of the power which money gives, so will the man of intellect be judged, not according to his powers, but by the use he makes of them.

Finally, my friends, if we would exalt our national life, and keep it pure and free, we must stand by and improve the school. Even in these days of great fortunes, we can not all be rich. But we need not waste pity on the poor man, merely because he is poor. We must all work, or, however we try to disguise it, steal. No honest workman finds his daily toil a pastime. All men hunger and thirst. So for all men there should be food and drink. All men alike require the kind offices of "Tired Nature's sweet restorer, gentle

sleep." And just as truly do all men need the illumination of the soul which comes from knowledge. "You will confer the greatest benefits upon your city," said a wise ancient, "not by raising its roofs, but by exalting its souls. For it is better that great souls should live in small habitations than that abject souls should burrow in great houses."

Once, when wandering aimlessly through a pathless forest in Michigan, I heard the deep groan of the fall of a mighty oak break the solemn stillness of the woods. There had been no sudden shock. There was no storm raging. The strength of the mighty giant has been sapped by "imperceptible things without name." Thus fall empires; and thus will fall this union of the States of America, unless we keep it pure and strong and fresh at the roots.

Lord of the Universe!
Shield us and guide us!
Trusting Thee always.
Thro' shadow and sun.

Thou hast united us;
Who shall divide us?
Keep us, O, keep us.
The many in one.

WEDNESDAY MORNING SESSION.

The convention was called to order by President Willmarth promptly at nine o'clock, who asked the audience to rise while the Reverend G. F. Hartman, of Mt. Vernon, offered prayer.

Prayer by the Rev. G. F. Hartman:

Almighty God, we bow our spirit just a moment to recognize God, who created and who preserves us, and whose we are. Thou art the God, and beside thee, there is none. We bless thee, oh Lord, for what thou hast been to us in days gone by. We thank thee, our Father, for what thou art to us this hour, for the hope of the future. We bow, oh Father, in submission to the Almighty. We thank thee for the blessings which thou hast scattered like frost; we thank thee for the blessing which thou hast put upon dealers in stock, that the farm has furnished the world with great men who have conquered in every business in life. We pray a blessing upon these, the key of life to the world. We pray that thou wilt send such prosperity and such blessings, that our land shall continue to be great and mighty, and we pray, Father, that the richest blessing of Heaven may be upon those who till the soil, and get the food to feed the multitude. We pray that the soil may be blessed from on high. We pray that a blessing be given to those who gather the harvest, and that thou wilt so bless us that a great tidal wave of salvation may sweep over this land, until multitudes who now disown thee may call thee as the God of their selection. We pray that thou wilt breathe a blessing upon these men gathered here. May thy spirit, Father, rule in every heart, and in all the deliberations of this organization. We thank thee, Father, for Illinois. We thank thee for the place she has taken among the states of this great Union. We thank thee for the men which Illinois has given to this great nation, whose names are known throughout the wide world. We ask thee to bless these farmers, when the greatest products of the farm will be the men of honesty and integrity, when that for which we shall be most thankful shall be the men who come up to rule in the name of God. Bless us and guide us, and save us through Christ, Amen.

After the prayer President Willmarth introduced Mr. Geo. H. Gurler, who presided as chairman.

Mr. Gurler:—Ladies and Gentlemen: I felt honored when I was called upon by the worthy officers of this association to preside at this session. I consider the live stock and dairy industry among the greatest and noblest industries in the glorious State of Illinois. The gentlemen that have been selected to represent those industries in this session are men not only of state but of national reputation. They are a trio that is hard to beat. Ask

them any and all questions that you see fit. They are abundantly able to answer them, and are here for that purpose. Now, the poultry industry of this country is beyond the expectation of an average person. The egg production for 1899 foots up to the round sum of \$317,000,000. The poultry foots up to \$287,000,000, making a total of over \$600,000,000 from the sale of poultry and eggs in the United States for 1899. Now, presuming that every man, woman and child in this country ate an egg this morning for breakfast, at 18 cents a dozen would amount to \$1,075,000. Now, I say that the American hen has a right to cackle, and the American cock a right to crow. I have the honor of introducing to you Mrs. Carr, who will address you on the poultry subject.

Mrs. Carr:—In regard to the statistics, I want to say one word that our worthy president has left out. Besides the immense amount of money that we gained from the poultry products in this country, we last year imported \$2,000,000 worth of eggs, mostly from China. It seems to me there is something wrong with the American hen, when we have to send to China for eggs.

POULTRY RAISING.

The first thing in poultry raising should be getting ready.

A few days ago I heard one man ask of another, "Have you begun your spring work yet?" And the other replied, "No, I h'aint begun to think of it yet."

We all know men who do not begin to think about their work until the time to do it has arrived, and then not having time to think, they go at it without system or method, and worry themselves by doing with painful effort what might have been better done with comparative ease if it had been given thought, and plans been laid before the day of commencement.

Some men practice economy chiefly when buying for their wives, and on the same principle, a man who has granaries, corn and hay structures, hog houses, horse, cattle and sheep barns galore, tells his wife that it wouldn't pay to put up the new hen house she asks for, and at the same time permit (I had almost said expect) her to furnish the groceries for a family of six or eight (with an occasional plug of tobacco thrown in) with the proceeds from the poultry yard, though she may have no better facilities for housing than is given by the top of an apple tree, or a ten by twelve house which leaks badly, and has openings between the boards on the sides through which the wind whistles in a manner mournful enough to suggest an Æolian harp. Still I must insist that one of the requisites of profitable poultry raising is a suitable house.

In building, bear in mind that ornament is undesirable, because of the needless expense, because it furnishes a harbor for vermin and disease germs, and because it requires more labor to keep such a house in a proper condition of cleanliness.

We are told that "cleanliness is next to Godliness," and if there ever is a time when I am tempted to put cleanliness first, it is in this connection.

Select a dry situation, as far from the barn as possible, and convenient to the house. Make the house warm, either with boards and building paper, or with double walls, door at the east and glass windows on the south, with board shutters to close at night. I prefer a dirt floor a foot higher than the outside ground, then when the earth becomes fouled it can be removed and replaced with fresh earth.

When your house is finished, sell your scrub stock and begin breeding pure bred birds. The quickest way to do this is to purchase a good start of birds from some one who has already passed the grading up line. The cheapest, and possibly the best way, is to secure several settings of eggs from a reliable source and raise your own flock for the next season. A third method is to grade up the stock on hand. If this method is used, one should remember

that all females exhibit a tendency to breed back to the original stock, and so only pure bred males should be used in order to improve. A common flock can be completely changed, in a few years, by breeding through the male line for qualities desired.

At present there are too many farmers who "keep hens" who would just as soon do business with a poor scrub hen as a good one (unless they can get the good one for nothing—and even then they would soon "mix" them) and as a consequence they make neither money nor progress. We need a larger class of ambitious poultry raisers among the farmers of this State. A class who are proud to be pointed out as "poultry cranks." A class of poultry raisers who take as much pride in their Rocks or Brahmas chickens, their Bronze turkeys and their Pekin ducks, as cattlemen do in their Herefords, or horsemen do in their Percherons. Let me repeat, the one who spends time and food on scrub stock will surely be in time in a condition to say, "There's no money in poultry." The greatest success in raising poultry is made by those who make a study of one variety and keep always in view the object aimed at.

There is a vast difference in growing poultry for market and growing fancy birds. If one wishes to raise chickens with a view to selling eggs in winter, or to make capons, he should use the Asiatics. If he expects to sell chickens as well as eggs, one of the American breeds are best. In my judgment the Mediterranean class is too small to pay the farmer to raise them. Even if one breeds for eggs, one must dispose of the males, which constitute one-half of the number raised. And to realize the greatest profit the hens themselves must be marketed at the end of the second year, because after that age they are liable to convert the food into fat instead of eggs.

In mating study your flocks, endeavor to learn their deficiencies, and set yourself resolutely to work to remedy them. Fine, strong, hearty chicks do not come by chance and are not the result of careless methods. There is no doubt but that the health and vigor of the chick depends upon the condition of the hen that laid the egg from which the chick was hatched, and her condition depends upon her owner. But if we use only mature stock, sexes not related, feed nothing but clean, wholesome food, and pure water, keep the quarters dry and free from vermin, give the birds all the sunlight possible, let them "scratch" in a litter of some sort for most of the food they eat, we will experience no difficulty in getting eggs which will hatch a large per cent of vigorous chicks.

In these days of low prices and close competition, the poultry raiser must carefully consider all modern conveniences in performing his work. And so the wide-awake, progressive, "up-to-date" poultry raiser will use an incubator. I have been convinced for some time that there is no one adjunct more helpful to the female poultry raiser than an incubator, because there are no vermin to contend with, one does not have to wait for an inclination to set, on the part of the machine, and it never breaks the eggs. If you use an incubator, however, give it proper attention, and do not as a woman of my acquaintance did, go visiting on the eve of a hatch of two hundred eggs, which in this particular instance resulted in roast duck—without its proper accompaniments.

If you use an incubator, you may profitably hatch your first chicks any time from January to March. If not, the first of April is soon enough. The object in early hatching is to get the chicks to market while prices are high. Something can be done by feeding if the chicks be rather late.

Chicks require no feed the first twenty-four hours, then the ones intended for market may be fed cooked corn bread, moistened with milk. The ones to be retained should have coarsely ground wheat, two parts and one part corn meal, cooked and used as for the others. Do not throw the food upon the ground but use a trough with an upright board at the back, which will prevent them from fouling the food with their feet. Furnish plenty of pure water and keep some kind of grit constantly before them. Regularity in feeding brings uniform results.

If one could get fifty or sixty cents a pound for chickens one could afford to feed hard boiled eggs, cracker crumbs, bone meal, steel-cut oat meal, high priced meat, etc., etc., which some poultry writers recommend, but the one who receives from five to eighteen cents per pound for his birds would better confine himself to the grains of the farm, mixed with clover, milk and—common sense.

The farmer who would derive the greatest profit from his poultry should raise turkeys and ducks as well as chickens, and in some instances geese may be added. The bronze turkey is the favorite of most breeders. Select the earliest hatched birds, showing the typical form, for breeding hens, discarding all small and immature specimens. Secure a tom in no degree related to the hens, at least one year old—two is better. From such matings one stands a better chance to secure vigorous poults, which lessens very materially the risk of loss.

Young poults must be carefully looked after the first few weeks of their lives, and protected from their two worst enemies, vermin and cold, wet weather. One must give them daily attention, and one can not be too closely attentive to small details. I feed wheat bread, soaked in milk, with chopped onion or clover, once or twice a day, for the first week. After that a bread made of equal parts ground wheat and corn meal, mixed with sour milk and soda, and well baked. Curds are said to be good, but I can not speak from experience, as I feed all milk sweet.

After they begin showing the red corrugation about the neck ("shooting the reds" this is called) they may be allowed perfect freedom, and they will wander long distances searching for insects, which is a favorite food. A feed of grain at night to prevent them from straying is all they require after this.

An essential in turkey raising is a poultry marker, that one may distinguish between one's own and a neighbor's birds. This marker cost me twenty-five cents, and last year saved me twenty dollars. If I had used it the year before I would have had thirty-two more turkeys to sell than I did have. My loss was a neighbor's gain.

Of ducks, the Imperial Pekin is best, being large, hardy, and their feathers are white, bringing a better price in market.

Houses for ducks are needless, and if built should be made low. No furnishings are required.

Water for swimming purposes is not at all necessary, indeed the little ones are better without it. Feed all they will eat of fattening food, and sell as soon as possible. I sold fifteen last spring at five weeks old, which brought me thirty cents each.

A word as to marketing. More mistakes are made in this branch of the poultry industry, than in almost any other. The greatest one, is selling poultry before it is in the best marketable condition—that is—when they are fat.

When fattening, close quarters, cleanliness, a small amount of light, with charcoal, and plenty of fattening food, gives best results. Corn is the best food to fatten fowls, but care as well as corn is essential. To derive the most gain in the shortest time, the birds should be kept comfortable and contented. Food should be given three times a day, and beside corn, a mess of bran, or ground soja beans, wetted with milk, may be allowed once a day, either in the morning or at noon.

One thing more: No one may, with certainty, give rules to be implicitly followed by all in the raising of poultry. All circumstances are not alike, and much depends upon the individual's energy, and ability to use the opportunities as they pass, or if no opportunity should present itself, to make one.

The poultry raiser who is ambitious, and has it in him to succeed, will not be discouraged by a few failures, but will learn something from every failure, and persevere until success crowns his efforts.

It is not what we know about poultry raising, that determines the measure of our success, but rather, in the putting of our knowledge into practice. "If ye know these things happy are ye if ye do them."

Q. Is there not a brand that is used for the purpose of marking turkeys?

A. There are such brands, and you can have them marked with your name or number. That brand is a leg band, with your name and initials on; it can be removed, if the neighbors want to remove it.

Q. Where can they be procured?

A. From any poultry supply company. You will find them advertised in the poultry papers.

Delegate: I am glad to say that we have raised turkeys for six or seven years, and have never had them wander from our farm. We see that they are there every day, and always feed them at a certain hour, and I believe if you will adopt that plan your turkeys will always come home. We found it necessary to feed them twice a day, in order to bring them home. It is the way you begin on them if they wander off, I am satisfied.

Delegate: Do you recommend housing the turkeys?

A. I do not know whether to house turkeys or not. One of my neighbors confined her turkeys in a yard, and eventually they did roost in an open shed.

Delegate: We raised 500 turkeys and I do not believe a single turkey went to the neighbors all season. They come in for feed about ten o'clock and they do not wander away.

Delegate: Does raising turkeys pay for the bother they cause the neighbors?

Mrs. Carr: I do not know; I am not one of the neighbors.

Mr. H. B. Gurler, of DeKalb, then made an address on Ensilage, as follows:

Mr. Gurler: Why build a silo? One reason is because we secure a larger feeding value from the same amount of grain in the silo. Experiments in Wisconsin show four per cent to the advantage of the silo, that is, the same amount of dry matter put into the silo that was dry cured, gave four per cent better results. At the Experiment Station the same amount of grain put into the silo produced 11 per cent more than the dry cured. Now, how is it that we get better results from the same amount of nutriment put into the silo than we do dry cured? It is one of those points where the chemist and the cow do not agree. It is something that we do not fully understand. We have faith in the chemist, but when the cow disagrees with him we are going to stand by the cow, and have to do it. It is something that the chemist can not tell us yet. In steer feeding, for instance, I am just as confident that the steer feeder is going to have a silo as I am of this question. One of the reasons is that he secures more results from the same amount of nutriment; but I think a greater reason is that he will be able to get more grain through his steers when he feeds silage than he does dry food. It will be an aid to getting more work done by the cattle that you are feeding. I do not think there is any question about that, and I know some of the steer feeders in the north are becoming interested in the silo, because it is going to enable them to do more work. You get your steers to consume more food when fed out of the silo.

Delegate: There is a little experience my brother had with silage. He keeps milch cows and ships milk to Chicago. He was feeding silage in the summer, and when he went back to pasture again, in two days they had shrunk 20 per cent.

Mr. Gurler: I have had the same experience last fall. I know some of the largest feeders of silage in the north, and they claim they have the same experience every year when they change from the silage. I was very nearly driven wild last year when the ensilage gave out. There is no question but what it is so, and it is a point in favor of the silo. Last year I made a close calculation of what I got out of my pasture per acre for three months. That same amount put into the silo would furnish fodder for a year.

Delegate: How many silos do you have?

Mr. Gurler: I have half a dozen, and I have not got enough now.

Delegate: Don't they cost more than the pasture?

Mr. Gurler: No, sir, the pasture is the most extravagant land we have on the farm. We get less from what we have invested in it. There is no question about that. When we put the grain in the silo we are independent as you please to housing. It may rain every other day. We can work when it don't rain, and we are alright. We do not have to go to work to get all the water off the grain. Last year I put up 750 tons of ensilage. You must put on enough water to give it sufficient weight to pack close enough to exclude the air. In some places I find it molded, that did not have weight enough to exclude the air properly. Now, as to cost. I believe that you will find that it costs no more to put the grain into the silo than to shock and house it after it is cured in the field.

Delegate: At what period of the grain do you cut it for ensilage?

Mr. Gurler: In the closing seed, just as it is beginning to close. It was one of the early mistakes, putting the grain in too early, as it had not reached the proper state of maturity, and it had not got its nutrition, and there was too much water in it. Grain when it is just tasselled is nine tenths water.

I have carried grain in the silo from one year to the next. I watched very closely when I passed that division in the silo. I could tell no difference when the cows were changed from that feed of one season old to that that was a year older. There was no apparent change, and the cows did not know that they were changed from one day to the next onto feed that was a year old. This is a valuable point. We can carry our feed in the silo just as long as we please, if we have a good silo, as we know how to build now. There is no excuse for building a poor silo any longer. In one way here comes in the question of silage for summer feeding. We have got a supply of feed on hand we can feed whenever it is needed. When the pastures get short, in July, we can start in on silage, and keep our stock up, whether cow or steer. Now the question of the cost of filling. I have put up grain at as low a cost as 50 cents per ton from the green grain. One season at 45 cents. Some seasons it cost me as high as 60 cents. Prof. King, of Wisconsin, estimated the cost of filling silos on four farms to average 58.6 cents, all green grain put in. I think there is no doubt but what we can produce more nutriment and more feeding value by planting the grain thin, but that is a question for you to decide for yourselves. You have got to feed the land. If you grow grain on it, from 20 to 30 tons per acre, you have to feed that land. It would not produce that many years in succession without putting something back. Some milk dealers are opposed to the silo, but their prejudice is based on early experience. Right here is a little illustration. I was called upon in Putnam county to judge some butter, and found one package that was just a step up in flavor, and I called attention to it. I did not learn until after the meeting and after the report was read, when the farmer came to me and said, "Gurler, I want to tell you this fact; that was my butter that scored that point above the other butter, and I feed no fodder, but ensilage, and am the the laughing stock of the whole community." There is no objection to flavor of milk from feeding ensilage, and if I wanted to make the finest product possible, I would insist on having ensilage. I feel as if I could not get to the front without ensilage. I had a little experience once.

In regard as to how we shall build a silo. I built my first silo square, and a single wall inside. My second silo I built with a double wall of surface lumber, with building paper and matched lumber inside. I would not build any more double walled silos. You can build them so that they will keep the feed all right for a few years, but the moisture gets in and in a few years the silo is gone. I had to tear out one last summer built in that way. I put in cement floors, which is just as good as stone, and costs much less money.

Delegate: I saw an article in a gazette that the acid in the silo would ruin the cement. Has that proven true or not?

Mr. Gurler: Not as far as I know. But do not let anybody fool you into using cheap cement. I expended \$500 renewing some cement because I allowed my man to induce me to use cheap goods. The walls of a round

cemented wood or lumber silo can be built for 12½ cents per surface foot. I am not saying anything about the floor. I would not give a cent for cemented bottom, except to keep rats out. You must get the water away. Put a tile around outside to get away surface water so that you get no surface water into it. You can put on cheap or expensive roofing, as you please. A silo 20 feet in diameter, 38 feet deep, can be built for \$300, and will contain 250 tons of silage.

Delegate: I want to know if Mr. Gurler wants to go on record as making the assertion here that it does not pay in Illinois to have pasture land?

Mr. Gurler: I am perfectly willing to go on record.

Chairman Fulkerson next introduced Mr. A. P. Grout, president of the Illinois Live Stock Breeders' Association, who spoke without notes on Type and Quality in Farm Stock, illustrating the same by a large number of graphic charts. [The stenographer's report, without the illustrations, does not do Mr. Grout's address full justice.—SEC.]

Song, by the Clover Leaf Quartette.

ADDRESS ON DAIRY LINES.

Mr. J. H. Monrad: I am pleased to be with you again, for two reasons. One is to see the increasing growth of the Illinois Farmers' Institute, and the growth in the right direction. The second is that I am pleased to be here to meet so many representative men from various parts of the State, who know that they as members of the Farmers' Institute have helped to get through the law that established the Pure Food Commission, of which I am honored by the position of Assistant, and I desire, on behalf of this commission, to express the hope that you who have helped to pass the law will also help the commission to enforce it. A commission like this is of no value whatever, unless the people will support it. You have noticed that with many of our laws, so I ask you all to go home and help us to uphold it. I have a few copies of the law, which I hope each representative will take a copy before they leave. Now, when I ask the farmers to uphold the law, it is not only in reporting any breaches, reporting the sale of adulterated food, so that we may send our inspectors to get after them, but of setting a good example. Pure food is not only pure vanilla extract, and so on, but pure milk. Pure milk is not only milk that has not been watered or skimmed, but milk that has been produced under sanitary conditions, from healthy cows, and I doubt if the average farmer realizes the great responsibility he has when he sells unhealthy milk to the people of the villages, towns and cities. If he would only think twice before he kept the cows in an unhealthy stable, poorly ventilated and lighted. So I ask you to set a good example by sending in good milk to the consumers, to the factories and condensers.

I am put down for a talk on dairy lines. First of all, there is no time to talk on dairy lines. I want to criticize the program committee a little bit. It has secured three speakers before me; each of those speakers could have kept you attentive for the whole session. I think that is a general fault of all our Institutes and conventions, that we overload our programs with too many speakers, and do not have time enough for discussion. I want to thank Mr. Grout. He is a man from the top of his head to the bottom of his soles—he is a representative man. I want to thank him for the able and interesting address. He has told you what any of us dairymen would have said when he illustrated opposite types. I know he is right. I have seen too many farmers fall down trying to raise beef on the back of a Jersey. There is very little to be said. I will only say this, if you expect the Pure Food Commission to rush in and create a revolution at once you will be very much disappointed. We have got to go very slow, but I have already been informed by consumers that they have even now found the labels on certain goods become more honest since the passage of the law, and we hope that when you ladies want extract of vanilla, you will get it if it is so marked.

AFTERNOON SESSION, FEBRUARY 21.

Song by the High School Chorus.

President Willmarth announced that Mr. Aaron Jones, who was to deliver an address on Farmers' Organizations, was not present, but that if he arrived later he would speak.

Mr. Henry M. Dunlap was then introduced as chairman.

Mr. Dunlap: It has been said that horticulture is the fine art of agriculture. In our program this afternoon we do not propose to go into the effects of horticulture, but we propose to give you something along the practical lines of horticulture. We do not propose to go back to the creation of Eden, and talk about how Adam was led astray by the apple, but give you something up to date. We all know that Adam was a horticulturist, and the only trouble in that story which has been handed down to us in tradition is the fact that Adam was too lazy to get around and hunt up enough fruit for dinner, and Eve had to go out and look after it herself; and of course women like beautiful things, and she picked up a Ben Davis apple, and hence her fall. Now, a good many farmers of today are a good deal like Adam. They will sit by the fire all winter and when spring comes they have the corn crop to put in, and horses to feed, and the cattle to look after, and they fail to provide that very essential thing for the betterment of the family, and for the best life of the family, namely, fruits. There is no reason why every farmer in the State of Illinois should not live like a king, if he would only employ the opportunities he has of providing fruits for the table. There is nothing, perhaps, so promising in all the long list of fruits, nothing so ever present with us, during every year, as the apple, and I presume the speakers this afternoon will bear very largely upon the apple question. I saw in coming down the railroad this morning hundreds of acres of apple orchards— young apple orchards and old apple orchards, all the way from one year's planting to thirty-five or forty. I see many instances where those apple orchards have apparently not been fruitful, for want of proper care. We know the failures of the apple crop in the last ten years have been almost as numerous as success, and we know in studying this question of fruits that there is a reason for all these things. If we are successful, there is a reason for it, because we understand our business. The soil in a fertile valley when we come may be young, and we make a success of agriculture just by happening onto it, as they used to say in New York when they immigrated to Illinois, "Take a shotgun and shoot it off, and go round in the fall and pick up the grain stalks." We have got by that time in horticulture, just as in agriculture, and we have arrived where horticulture to be successful must get earnest study and effort. The three main questions this afternoon are those of spraying fruit trees, of cultivation, and of taking care of the fruit after it has been gathered, namely, marketing the fruit. Now those are the things that you are here to hear. You did not come here to hear me talk in these introductory remarks, and I wish to say, this afternoon when these papers are read, that we want you to discuss them, and want you to make this meeting your meeting, and want you if you have anything to say, to be to the point, be brief, and then give someone else a chance, and get as many ideas in this afternoon as we possibly can, and just as much information out of it as we can.

We have with us Prof. Blair, the Horticulturist of the State Experiment Station at Champaign. He will talk to you upon that very essential thing in fruit, culture and cultivation of orchards. I will say this: We have had a number of failures in Illinois in the apple crop in the last few years, and I want to say to all fruit growers that it is entirely unnecessary to have such a failure—it is not a dispensation of Providence at all, but our own negligence and ignorance that we have a failure in the apple crop in Illinois. It has been my privilege to investigate the orchard question in a number of the

states in the west this year, and I want to say to you that from my experience as a fruit grower there is no place in the United States where horticulture can be so profitable as in the State of Illinois, if we will give it that great attention which it deserves.

I have the honor of introducing Prof. Blair.

ORCHARD CULTIVATION.

By J. C. Blair.

The orchardist should cultivate his orchard for the same reason that the dairyman feeds and waters his herd. This is because all forms of life are fundamentally of one character. In other words, there is a common basis of life existing among all living beings—and this common unity is found to exist in the protoplasm (the living active principle) of the cells which make up these beings. All work, therefore, whether it be the developing of an apple or the secreting of milk, implies waste, and this waste is directly or indirectly that of protoplasm. The protoplasm of plants is made out of mineral compound while protoplasm of animals is made from plants. This, then, is a difference between the two, yet their composition is alike. All this is only another way of saying that all labor expended, even in maintaining life, means a loss of vital force which must be supplied. The dairyman's herd would not be productive were not this waste supplied in the form of food and water. Left to themselves as were the buffaloes, they doubtless could maintain life. So with the orchard; if left to itself, as is often the case, it may live and even produce fruit. But if it is to be productive in a commercial sense it must be liberally fed and watered. This is best and most economically done by good cultivation. Cultivation, then, is the first and fundamental principle which needs not even the exception to prove it a positive rule for successful orcharding.

An intelligent cultivation of the orchard rests upon the fact that the soil is a storehouse of plant food and also a reservoir for catching and holding water. If it is not cultivated the root system of the trees can not penetrate deeply into the soil for its food and water supply. The first great benefit, therefore, coming from this operation is the pulverizing of the soil, thus giving a greater root-feeding area and at the same time deepening the soil itself. All of this implies an early warming and drying of the soil in the springtime because when the texture of the soil is poor, that is when the soil particles become cemented together as the result of heavy rains or injudicious plowing, the land is cold and the root system can not penetrate it or even appropriate the plant food within reach. This pulverizing of the soil also means a lessening of the extremes of temperature and moisture. The first great office of tillage, then, is that of improving the mechanical condition of the texture of the soil. For this reason I am opposed to the application of fertilizers to orchard soils until the land has been so improved in its physical condition that the plant can use what is already in the soil.

The second great office of cultivation is that of supplying or saving the moisture which is needed in such large quantities by orchard fruits. Nature annually supplies the Illinois farmer with an abundance of water for his crops, but the trouble seems to be that the supply comes at a time when least needed. A little investigation, however, readily shows us that this supply should come mainly when the plants are inactive. Further that because of its physical possibilities the soil can be made to retain this water until needed during the dry summer months. It is a fact that the soil particles hold water in the form of a film on their surface. The surface area of these particles depends on their number or the fineness of the soil. This is readily seen by comparing a cubic foot of marbles one inch in diameter with a cubic foot 1-1000 of an inch in diameter. In the first we have an aggregate surface area according to King of 27.7 square feet, in the latter instance of 37,700 square feet. This fining of the soil is secured by thorough drainage, hand in hand with judicious and careful cultivation of the soil. If the soil is not well drained naturally, it should be tile-drained, as this is the greatest corrective of hard, impervious soils. It is this removal of superfluous water that pre-

vents the soil particles from cementing together in wet weather and that allows the moisture to come from greater depths to the surface where plants may use it during the dry months.

But this increasing of the water-holding capacity of the soil must be supplemented by a retentive force which will check capillarity at the surface of the soil. The water moves by capillary attraction to the surface where it is evaporated; explained in the same manner as the upward movement of oil in the lampwick—or of ink in the blotting pad. By breaking up these capillary spaces next the surface, evaporation will be checked. In the same way a mulching of the surface prevents evaporation. No mulch is so good and economical as a dust mulch procured by cultivation. This same operation having broken up the capillary pores conserves the moisture by checking the evaporation. But it is useless to commence this checking process late in the season when drought is already apparent. No amount of cultivation at this time can correct the fault which should have been prevented weeks before. The careful orchardist will commence to cultivate early in the spring—or as soon as the land will permit it—repeating the operation at least once a week unless frequent rains should make such an operation useless. As soon as a shower has passed and the land has become crusted and dry on top the harrow should be put to work remaking this dust mulch. Cultivation should not only commence early in the season—but can usually be stopped early in August at which time the trees have completed their growth and have commenced to ripen up their wood and fruit prior to the inactivity of winter. At this time much will be gained by a cover crop—the cow pea, soja bean, or clover being used as a rule. These cover crops are valuable because they hold the soil in the best physical condition and prevent some of the plant food from escaping as well as adding positive fertility to the soil when plowed under in the spring. Such crops serve to catch and retain the snow—an important winter protection.

There is still another benefit derived from orchard cultivation—that of increasing the chemical activities of the soil. Air and warmth are just as essential to the chemical processes going on within the soil as is water. The soil is full of minute organisms, increasing the necessary nitrates and other food materials required by the plant. Such activities are greatly decreased and sometimes prevented because of lack of cultivation. Cultivation would have supplied the air, warmth and consequent food supply for the plant.

If these statements are true, and both science and practice proves they are, what then is the proper treatment of the soil for the Illinois orchard during its lifetime? The ground should be in a thorough state of cultivation at the time the trees are set and during the first year no crop should come within three feet of the young tree; this space to widen each year. If the soil has been subsoiled and deeply pulverized the root system will go far down, at least the tendency will be in that direction. The intervening spaces between these trees should be growing some secondary crop and one which admits of cultivation. This method allows the orchardist to get a paying return from his land while the trees are becoming established. But in no instance should a crop, for the crop's sake, be taken from the orchard after the trees have come into bearing. The greatest difficulty in fruit growing in Illinois has arisen from the fact that these annual returns have enticed the orchardist away from the primary object of the plantation, which is fruit growing. The yearly growing of corn or grain or hay crop, forgetting to care for the trees themselves, would cause an ultimate loss in fruit production ten times greater than the gain derived from the annual secondary crops. But, you say, the corn plant shades the ground and therefore prevents evaporation of soil moisture. Did you ever stop to think that the transpiration of moisture from the leaf surface of the corn is greater twice over than that lost by evaporation with the poorest system of cultivation? Now, soil in order to do its best work, that is, supply the paying quantities of plant food, must be within forty to fifty degrees of saturation. Or, to state the point another way, the normal soil in good state of cultivation contains about 4,000 barrels of water per acre, one foot deep. The corn transpires from its surface about 200 tons of water for each ton of dry matter produced. This means a loss of more than 100 gallon of water per acre per day during the corn growing season. The

apple tree, on the other hand, according to carefully conducted experiments by Anders and Dr. Burrill, transpires 250 gallons, or, if there are 35 trees per acre, which is 35 feet apart each way, 8,750 gallons in twenty-four hours from every acre. The enormous quantity of water taken up and given off by our apple trees requires a careful conserving or retaining of the water which nature furnishes early in the season. If, then, we grow corn in the orchard expecting thereby to aid in this supply, we are deceiving ourselves and robbing the trees and consequently robbing our bank deposits as well.

But I must emphasize the fact that the success of the orchard, or the degree of profit returned from the investment, will be measured more accurately by the early treatment of the orchard than by anything else. I am not now arguing the case of the dairyman or stock raiser who wishes his land primarily for pasture or hay and whose orchard is simply a secondary or catch-crop consideration. If such a man secures paying returns by these other avenues of production, certainly he is entitled to what fruit may be produced as a secondary crop. But the great number of Illinois orchards are unprofitable because we have been deceived by annual returns gathered, or by secondary crops, and have therefore neglected such treatment as would make profitable returns from the trees themselves. If the orchardist is growing apples for the money there is in the business he can not afford to excuse his negligence and loss by saying that Mr. Brown or Mr. Smith got paying returns from orchard fruits in cropped or sod lands. Because an orchard has done well in sod does not say that it would not have done better in cultivation. Finally, in speaking one word to the man with the unprofitable old orchard: If you are satisfied with the returns from the same, continue as you are doing; otherwise, give cultivation, which is the basis of successful orchard management, and follow it up with pruning, spraying, and the other necessary means to success.

The actual cultivation of the orchard is neither a hard nor complicated operation. The tools used are such as are found, or at least should be found, on every well managed farm. The plow, which is the greatest and most economic pulverizer and ameliorator of the soil should be used for the first spring cultivation, especially in the young orchard. Any of the ordinary breaking plows will be found entirely satisfactory. This implement is usually followed by the disc and spring-tooth harrows. Even in orchards not plowed, especially old ones, the disc harrow will be found entirely satisfactory. It can be made to cut even stiff blue-grass sod, and should always be used for reducing the lumps resulting from fresh plowing. Its action, however, is such as to leave the soil in small ridges, thus increasing the surface area exposed to evaporation by wind and sun. It should therefore be followed with some smoothing harrow, which gives a more even surface and finely pulverizes the same. Most lands, especially those having a tendency to cement together during heavy rains, will require a thorough discing as soon as the land becomes sufficiently dry. This, followed by the smoothing harrow, and the operation repeated at intervals of one week during the period of no rain, or drouth, will thoroughly conserve the soil water by forming a blanket or dust layer which is the best kind of mulch. The most important tool, therefore, after the early operations which have deeply pulverized the soil, is a fine-toothed smoothing harrow. The spring-tooth harrow is a very desirable implement for breaking the crust after heavy rains, answering the purpose as well if not better than the disc harrow, besides being much easier on the team.

The cultivation should be carried as near the trunks of trees as possible. The tools mentioned above allow of working close to the trees, provided they are not headed below three or four feet. Even in such a case, especially with some varieties, overhanging tops interfere unless the harness used has no projecting hames or terrets. In fact, according to our experience, the Sherwood harness is one of the most satisfactory for this kind of work. It has no whiffletrees with which to scar and bruise the trees, and no other projections of any kind.

The cost of cultivation is a most important consideration and should not be overlooked in this discussion. Our best growers in this State have found that the cultivation of an orchard costs less than that required by corn or any other farm crop. The exact expenditure, however, will be governed entirely by the conditions existing in each orchard and by the weather conditions. We have found at the station grounds that \$16 per acre covers the cost of disking three times, and harrowing three times with the spring-tooth harrow and seven times with the smoothing harrow. This may seem high indeed for a single season's outlay, but when it is remembered that there are fifty trees to the acre in this orchard it will be seen that the cost per tree was but thirty-two cents for the season. Moreover, these trees bore heavily, kept a luxuriant foliage to the end of a very dry season, made an excellent growth, and went into the winter in first class condition and with plenty of fruit buds for next season's crop; all of which emphasizes the fact that the actual cost was comparatively low when compared with the benefit derived therefrom.

Delegate: Has the theory of fumigation to destroy the moth been developed?

Prof. Blair: I do not know of any instance on record, at least, of fumigation being used as a remedy or benefit for moths.

Delegate: Should this orchard grass which we receive from the government be sown in the orchard?

A. I have only one answer, and that is, no. I might modify it to this extent. One year in a long time it might be alright, but as a practice it should be discouraged.

Delegate: We sow frequently about a row of blackberries and raspberries through the orchard. Does that injure, or what effect has it?

A. A secondary crop grown between the trees will work no harm. That is a point, however, that must be determined by the grower in his own locality.

Q. Do you consider it an advantage to sub-soil the ground before planting the trees?

A. It will depend entirely upon the soil. You understand that the sub-soiling process is not a long lived benefit. Sub-soiling for many of our lands is of very little use, but as a general principle sub-soiling is alright, and a good practice.

Q. Can you give us something of the method of cultivation and what tools to use and how to use them in an orchard that is barren?

A. It is not possible, ladies and gentlemen, in the forty minutes allotted to touch upon all phases of the subject; that is a big question, and I shall touch upon a few things only. A secondary crop can be grown. Cultivate during the early season. Continue it until the trees have commenced to harden up for the winter, and have ripened their fruit, and put in some crop, such as cow pea, or others, so that it will keep the soil in the best possible condition during the fall months and winter months, and leave them grow there. It catches the snow and helps to protect the soil. Then plant it under in spring. It seems to me that would be the ideal treatment. Cover the land then so as to retain what you have gained by the cultivation so as to hold the particles of soil in their places, and prevent the soil from cementing together. This can be done by the cow pea as well as by any other plant. In regard to the old orchards, I do not care to discuss that question very long. The treatment that would be necessary would depend entirely upon its previous treatment, but if the farmer is satisfied with the returns he is getting, I shall not attempt to discourage him; but if he is not satisfied the proper thing to do is to cultivate that orchard and clean it up. Plant the apple trees forty feet apart, and the roots will intertwine in ten years. If the soil is hard and impervious the root system will go along the surface a greater distance.

Q. How do you commence to cultivate orchards in the spring of the year?

A. If the orchard has not been cultivated during its early life the probabilities are much injury would result from the plow. Use the disk harrow. But if plowed for the first or second year much would be gained. In other

words, the plow, of all farm tools, is the greatest pulverizer that we have, and we can pulverize deeper than with the disk harrow, or any other tool. The orchard should never be left during the dry season as the plow would leave it, and if the cultivation is started of plowing let it be rather light? There is no need of going very deep. But with the orchard that has been allowed to grow some secondary crop, as hay, wheat, then the only thing to use is the disc harrow. Follow it every time with a smooth harrow.

Q. In reviving an old orchard, would you use fertilizer?

A. In reviving an old orchard almost any system is legitimate. I am convinced that there are thousands of acres of good orchard land in Illinois that are literally starved to death.

Q. Would you recommend, in a cultivated orchard four years old, hogging?

A. The average southern Illinois orchard would not stand much of that kind of thing. In other words, the injury caused by the trampling of the pigs is very great indeed.

Q. When do you do your spraying?

A. Just three sprayings. One just before the buds open in the spring, another just as soon as they drop, and another as soon as you can get around them. The mixture is four pounds of lime, a quarter of a pound of paris green to 50 gallons of water.

Q. Do you begin to spray before pruning time or after the trees begin to fruit?

A. That would depend upon you. The sooner you commence the better.

Q. In cultivating an old orchard, as the orchard continues to bear, they naturally droop, and when loaded with fruit they very often droop to the ground. They will droop whether loaded or not, if they are quite old. Now, to what extent should a person prune in order to successfully cultivate the orchard?

A. I bring mine up as high as I dare, in order to get under them. I do not take any of the big limbs off.

Q. What time of the year would you trim an orchard?

A. It would be according to what you call trimming it. If you were trimming an old orchard of ten years do it in the last of May or the first of June. The little limbs that you cut off will almost heal that year. But be sure wherever you cut off a limb to paint it.

Q. Would you paint over the larger branches?

A. Yes, sir.

Q. Do you consider the rooting of the hogs injurious to the trees? I have some trees about 40 years old, and in a few years the hogs rooted them very little, and they died.

A. I do not believe it was by the rooting of the hogs, but because the ground was hard, and that was what killed the trees.

Song by the quartette.

SUCCESSFUL SPRAYING OF FRUITS.

By H. A. Aldrich, Neoga.

In taking up this subject before an audience of fruit growers and orchardists as I have reason to believe will be present at a meeting of this kind, in the fruit growing belt of southern Illinois, I feel that it would be a waste of time to attempt, in a general way, the discussion of the questions, Is our land adapted to fruit growing? How shall we prepare the land? What shall we plant? and to what extent, etc. These subjects have been discussed and acted upon; we find fruit growing and orchards all through southern Illinois, but we hear much complaint during the past few years from orchardists and

to some extent among small fruit growers. It is claimed that fruits do not thrive so well as usual and that plants and trees seem subject to all kinds of insect attacks, resulting in imperfect fruit, when we succeed in growing any at all. I have heard this matter discussed and all kinds of explanations offered. Some persons have concluded that it is useless to attempt to grow fruit commercially, and that we must be content to grow a small amount for family use, and that to be imperfect, wormy, etc. Farmers who planted orchards years ago will tell you when the first orchards of our locality came into bearing they had fine crops of perfect apples; no one ever thought of looking for bores or spraying for curculio or codling moth. I met the Commissioner of Horticulture of Oregon last summer and in conversation with him I learned when Oregon first put out orchards they spoke of the country as one great fruit garden where fruits of all kinds would grow perfect and free from insect pests. Only a few years after orchards came into bearing they found absolutely necessary to spray every thing in order to produce marketable fruit. From observation and some experience during the past two years, I have become convinced that we must spray and also cultivate our orchards if we are to expect paying crops. This applies to every farmer who has large or small orchards; the expense is small and no farmer with a few trees can afford to neglect them; there is no mystery about the work of spraying. We are some times reminded that the most important question since we have orchards and grow small fruit for market also, is how to dispose of it at a profit. It has been suggested over-production is causing the trouble and while we were willing to continue in the business, we would like to have the other fellow quit, thereby reducing the supply and give better chances in the market. It would seem that we want the market to fit our produce rather than the produce should fit the demand of the market. If a manufacturer finds he has been bringing out goods which a trade will not buy at a profit, he is obliged to improve his product to meet the demand. As fruit growers we can not make sudden changes in the varieties of our tree fruits, but we can be careful in planting future orchards and take steps to improve the fruits already planted in making the quality better. Fruit will be eaten and the human appetite will not go out of business and the busy season lasts during the entire year. All farmers and fruit growers are competitors. Are we sure our competitors are not producing fruit and farm produce at a less cost than we are. If this be true it is not difficult to guess who may quit. We should know what it costs to produce these crops. We are told by such men as L. H. Bailey that the United States is the leading fruit growing country of the world, because large areas are available for the business; because the climate is congenial, and political and social conditions are uniform in all parts of the country. Allowing free interchange and ideal methods, these conditions do not exist in Europe. Again he says it is also true that the American farmer and fruit grower has more help in teachers and experimenters.

SHIPPING FRUITS.

By J. W. Stanton.

Next in importance, after raising a crop of fruit, is to dispose of it so that it will bring the best possible returns. Until recent years there was not so much danger of overstocking the leading markets and returns were in most cases fairly satisfactory, but now we have many large commercial orchards in every fruit growing state, and it is evident that the most judicious management in shipping and marketing fruits must obtain, if our fruit in future can be made to pay satisfactory prices. It costs money to take care of orchards and the lot of the average fruit grower is not so rosy as some would suppose. This meeting having been located in the heart of the orchard growing district of Southern Illinois, it may be well to take orchard fruits for our subject at this time. The most successful means of disposing of our fruit has been through the shipping associations organized with proper rules and business coöperation. Every county where fruit is grown to any great extent should have some sort of an organization, with a competent secretary, whose business it should be to attend to all matters pertaining to shipping, under

such rules as may be adopted by the association. Common orchard fruits, in car lots, may be handled by the association and sold by the car, which would be made up by several growers. In such cases the fruit should be inspected and grades maintained, so that each grower would secure proper value for his fruit. However, each car should contain only one grade of fruit. Car lots may be also handled by the association allowing each shipper to mark his fruit to any commission firm desired in Chicago or other point where car is to go, just as would be done by shipment of small lots at local rates. When the car is loaded in this manner, it is consigned to some one designated at destination, who pays the freight and delivers the fruit to the several firms as marked. The several shippers will receive their returns from the firms just as they would have by local shipments. They pay only car load rates, and shipper who has one package pays same rate as large lots. When the season arrives for cold storage packing, apples can be disposed of to better advantage right at home in the orchard. Merchants who put up apples have found it advisable to have them handled in their own way from the tree to the storage, therefore they will pay more than the grower can realize in most cases by shipping them to market. The business of handling this class of apples has grown into an important and separate branch of the industry, which will no doubt be the means of furnishing an outlet for our increasing surplus. The orchardist must, however, bear in mind that fine quality is necessary and only those who grow good quality will be able to sell to such buyers.

The Legislature passed a law to regulate the commission business. The Supreme Court knocked it out. Of course they will hear of it again, but they have knocked it out for the present. At the same time, when that law was being enforced in Chicago, the best commission people in the city and the most reliable firms were in favor of it. They took out their licenses, and said they proposed to keep up their licenses. But the Supreme Court knocked it out, but that is not done with as yet.

If you all have the same class of fruit it is all right to go in the combination.

Delegate: Very often the buyers of apples will give more for apples in the orchard than the same apples on the market. This is true both of strawberries and apples, and very often we get more money on contract at home than we would get in Chicago, for instance. The buyer can inspect them, and knows how to put them up, and they can ship them directly where they want. I say, if you can dispose of them at home to do so.

Mr. Stanton. I corroborate just what he says, and I want to say further that some of the associations are so organized that they sell all the product of the trees, and pro-rate the pool. Of course, you have to have a considerable amount of stuff to do it. The point of shipment of all good fruits used to be Chicago, but that has changed literally since we have got refrigerators.

Delegate: In our country last season we had very fine apples. A buyer came in and bought an orchard, and paid a certain price for them. He went to his neighbor who had picked and barrelled his, whose apples were fully as good, and he would not pay him as much by 25 cents a barrel, as he would the other man, because they were handled poorly, and not fit for food. To sell apples we must have apples that are marketable, and the buyer generally knows better how to take them and handle them than the man with the small quantities at least, and generally the man with a small quantity of apples had better sell them right off.

Delegate: How can the small grower just commencing, growing from 10 to 40 acres, who has not a car load of fruit, sell them to the best advantage? Buyers do not seek those orchards. They know where they can get car loads at a time.

Mr. Stanton: I would suggest that the gentlemen in that neighborhood if you have as much as ten acres, organize. If you have a secretary of that organization he can look up these buyers, just as well as others who live in a

more favored section. It don't take but very few trees to make a car load. The small orchards are liable to have all the fruit if taken care of properly, because there are not so many insects.

Delegate: This season in the section I live we have got very large orchards. We are just beginning to realize we can grow apples all right in Central Illinois. We had apples on nearly all the trees, especially the older trees. I could have bought one thousand bushels of apples at ten cents a bushel on the trees. The farmers do not know what to do with them. They do not know how to handle them. It is an easy matter to take care of the fruit, when you understand it, and in less than six weeks after I put my apples in my cellar the grocer begged me for those apples at a dollar a bushel.

Delegate: I believe we farmers, if we take care of our apples, and put them up, will certainly derive more profit than when we are in a hurry to dispose of them. I have at present 50 bushels. Few have rotted. Now, I am less than two years old in farming. When I take my apples to market I employ the children. I pay for their time. I give them a soft cloth and let them polish them. I think if we farmers would take more pains to sort our apples we would get better results, and derive more profit from them.

Delegate: For the benefit of the small farmer, when they can not ship in car load lots, or have not enough apples to command the attention of the buyer, and those who do not want to keep them, I would suggest that the farmer go to his railroad agent and tell him about it. He will find you a buyer.

Mr. Stanton: Express agents will now take orders for fruit in certain towns. At least you can make arrangements with your agent to take orders for you, and telegraph as to how many cases of berries of fruit to have ready for the next morning. They will telegraph the order to you, or send it to you so you will get it, and you can ship to them the next morning. I do not see why such an arrangement should not be made. They do this for you free of charge, and the money comes back to you without commission.

Song by Mr. E. M. Higgins, of Joliet.

Col. Mills then read a resolution passed at the meeting of the Illinois Domestic Science Association, and asked that it be favorably considered, which motion was seconded and carried. (See resolution in report of meeting of the Domestic Science Association.)

CONVENTION OF DELEGATES.

Minutes of the convention of delegates of the Illinois Farmers' Institute.

MT. VERNON, ILL., February 21, 1900.

The delegates of the Illinois Farmers' Institute met in the Grand Opera House at 4:30 o'clock, as per the following notice:

The delegates from the several Congressional Districts will meet for conference at 4:30 o'clock p. m., Wednesday, February 21, 1900, to select Directors for the Illinois Farmers' Institute for the odd numbered Congressional Districts, as provided in the act of the General Assembly creating the Illinois Farmers' Institute.

By unanimous consent, G. A. Willmarth was selected as chairman and A. B. Hostetter as secretary.

The committee on the credentials of delegates reported for the use of the chairman of each congressional delegation, as follows:

SEVENTH DISTRICT.

MT. VERNON, ILL., February 21, 1900.

Chairman Congressional Delegation:

The following is a list of the delegates entitled to a seat in your meeting for the selection of a director:

County.	Delegates.	Address.
Lake	H. D. Hughes	Antioch
Cook	I. R. Webb .....	.....

It is recommended that each delegate be entitled to but a single vote, and that proxies be not recognized.

WALTER R. KIMZEY,
E. W. BURROUGHS,
W. L. FRISBIE,
OLIVER WILSON,
C. W. CURL,

Committee on Credentials.

NINTH DISTRICT.

MT. VERNON, ILL., February 21, 1900.

Chairman Congressional Delegation:

The following is a list of the delegates entitled to a vote in your meeting for a director:

County.	Delegates.	Address.
Carroll	A. B. Hostetter	Mt. Carroll
JoDavless	G. W. Curtis	Stockton
Lee	J. L. Hartwell	Dixon
Winnebago	W. C. Yenerick	Ashton
Ogle	W. L. Frisbie	Rockford
Boone	Amos F. Moore	Polo
Stephenson .....	.....	.....

It is recommended that votes be cast in person, and proxies not to be recognized.

Respectfully submitted,

WALTER R. KIMZEY,
E. W. BURROUGHS,
OLIVER WILSON,
W. L. FRISBIE,
C. W. CURL,

Committee on Credentials.

ELEVENTH DISTRICT.

MT. VERNON, ILL., February 21, 1900.

Chairman Congressional Delegation:

The following is a list of the delegates entitled to a seat in your meeting for the selection of a director:

County.	Delegates.	Address.
Bureau	J. D. Crownover	Wyanet
LaSalle	Mrs. H. Olmstead	Freedom
"	G. A. Willmarth	Seneca
"	F. M. Higgins	Ottawa
Woodford	Jno. L. McGuire	Metamora
Livingston .....	.....	.....

It is recommended that each delegate be allowed but a single vote, proxies not to be recognized.

WALTER R. KIMZEY,
E. W. BURROUGHS,
OLIVER WILSON,
W. L. FRISBIE,
C. W. CURL,

Committee on Credentials.

THIRTEENTH DISTRICT.

MT. VERNON, ILL., February 21, 1900.

Chairman Congressional Delegation:

The following is a list of the delegates entitled to a seat in your meeting for the selection of a director:

County.	Delegates.	Address.
Champaign	C. Dyer	Mahomet
"	E. E. Chester	Champaign
"	I. S. Raymond	Philo
DeWitt	Frank W. Cline	Clinton
"	F. M. Borders .....	.....
"	W. H. Thorpe	Wapella
Douglas	E. E. Senteny	Arcola
McLean	Jno. M. Anthony	Bloomington
"	D. R. Stubblefield	Covel
"	E. D. Funk	Shirley
Platt	Thos. Lamb, Jr.	Bement
Ford .....	.....	.....

It is recommended that each delegate be entitled to a single vote, and proxies be not recognized.

WALTER R. KIMZEY,
E. W. BURROUGHS,
OLIVER WILSON,
W. L. FRISBIE,
C. W. CURL,

Committee on Credentials.

FIFTEENTH DISTRICT.

MT. VERNON, ILL., February 21, 1900.

Chairman Congressional Delegation:

The following is a list of the delegates entitled to a seat in your meeting for the selection of a director:

County.	Delegates.	Address.
Adams.....	S. N. Black.....	Clayton.....
McDonough.....	Mr. M. McElvain.....	Scottsburg.....
.....	Mrs. M. McElvain.....	.....
Warren.....	J. W. Coghill.....	Roseville.....
Brown.....	.....	.....
Hancock.....	.....	.....
Henderson.....	.....	.....
Schuyler.....	.....	.....

It is recommended that each delegate be entitled to a single vote, and that proxies be not recognized.

WALTER R. KIMZEY,
E. W. BURROUGHS,
OLIVER WILSON,
W. L. FRISBIE,
C. W. CURL,

Committee on Credentials.

SEVENTEENTH DISTRICT.

MT. VERNON, ILL., February 21, 1900.

Chairman Congressional Delegation:

The following is a list of the delegates entitled to a seat in your meeting for the selection of a director:

County.	Delegates.	Address.
Christian.....	Harry Grundy.....	Morrisonville.....
.....	S. C. Wagoner.....	Pana.....
Sangamon.....	Chas. F. Mills.....	Springfield.....
Logan.....	.....	.....
Macon.....	.....	.....
Menard.....	.....	.....

It is recommended that each delegate be entitled to but a single vote, and that proxies be not recognized.

WALTER R. KIMZEY,
E. W. BURROUGHS,
OLIVER WILSON,
W. L. FRISBIE,
C. W. CURL,

Committee on Credentials.

NINETEENTH DISTRICT.

MT. VERNON, ILL., February 21, 1900.

Chairman Congressional Delegation:

The following is a list of the delegates entitled to a vote in your meeting for the selection of a director:

County.	Delegates.	Address.
Clark	J. J. Meehling.....	Marshall.....
Coles	T. L. Endsley.....	Charleston.....
Crawford	Thos. N. Cofer.....	.....
Cumberland	H. N. Richey.....	Flatrock.....
Edgar	J. D. Trimble.....	Trimble.....
Emingham	A. H. Yanaway.....	Toledo.....
.....	H. A. Aldrich.....	Neoga.....
.....	C. W. Curl.....	Mays.....
.....	L. P. Mantz.....	Watson.....
.....	Geo. Kincade.....	.....
Jasper	Peter Beaver.....	Emingham.....
Lawrence	Mrs. S. Rose Carr.....	Lis.....
.....	Will D. Barr.....	Lawrenceville.....
Richland	Mrs. J. R. King.....	Bridgeport.....

It is recommended that each delegate be entitled to but a single vote, and that proxies be not recognized.

WALTER R. KIMZEY,
E. W. BURROUGHS,
OLIVER WILSON,
W. L. FRISBIE,
C. W. CURL,

Committee on Credentials.

TWENTY-FIRST DISTRICT.

MT. VERNON, ILL., February 21, 1900.

Chairman Congressional Delegation:

The following is a list of the delegates entitled to a seat in your meeting for the selection of a director:

County.	Delegates.	Address.
Clinton	Lincoln Kell.....	Salem.....
Marion	A. N. Schermerhorn.....	Kinmundy.....
.....	M. C. Kell.....	Kell.....
Monroe	Wm. J. Herms.....	Kidd.....
.....	Balzer Schmidt.....	Waterloo.....
Randolph	W. N. Wilson.....	Baldwin.....
.....	Geo. W. Wilson.....	Sparta.....
.....	J. M. Clark.....	.....
Perry	W. T. White.....	Cutler.....
.....	Wm. Jackson.....	DuQuoin.....
.....	F. A. Williams.....	Tamaroa.....
St. Clair	W. H. Wilderman.....	Freeburg.....
.....	Fred Helms.....	Belleville.....
.....	L. F. Dintleman.....	.....
Washington	W. A. Kugles.....	Okawville.....
.....	A. A. Hinckley.....	DuBois.....
.....	Jas. Chesney.....	Addieville.....

It is recommended that each delegate be entitled to but a single vote, and that proxies be not recognized.

WALTER R. KIMZEY,
E. W. BURROUGHS,
OLIVER WILSON,
W. L. FRISBIE,
C. W. CURL,

Committee on Credentials.

On motion of Mr. Curtis, of JoDaviess county, the report of the Committee on Credentials was adopted.

A recess was then taken to allow the several congressional delegations to meet and select a director for their district.

The convention on being again called to order, the Chairman announced that the Secretary would call the roll of the odd numbered districts and the delegation should announce its selection for director.

The roll was then called, with the following reports:

SEVENTH DISTRICT.

To the Convention of Delegates of the Illinois Farmers' Institute.

GENTLEMEN:—The Seventh District delegates desire to report that they have selected H. D. Hughes, Antioch, director for the ensuing term for the Seventh District.

H. D. HUGHES,
President.

IRA WEBB,
Secretary.

NINTH DISTRICT.

To the Convention of Delegates of the Illinois Farmers' Institute.

GENTLEMEN:—The Ninth District delegates desire to report that they have selected Amos F. Moore, Polo, Ogle county, director for the ensuing term for the Ninth District.

GEO. W. CURTISS,
President.

W. L. FRISBIE,
Secretary.

ELEVENTH DISTRICT.

To the Convention of Delegates of the Illinois Farmers' Institute.

GENTLEMEN:—The Eleventh District delegates desire to report that they have selected G. A. Willmarth director for the ensuing term for the Eleventh District.

JOHN L. MCGUIRE,
President.

MRS. H. F. OLMSTEAD,
Secretary.

THIRTEENTH DISTRICT.

To the Convention of Delegates of the Illinois Farmers' Institute.

GENTLEMEN:—The Thirteenth District delegates desire to report that they have selected S. Noble King, Bloomington, director for the ensuing term for the Thirteenth District.

C. A. GATMAN,
President.

E. D. FUNK,
Secretary.

FIFTEENTH DISTRICT.

To the Convention of Delegates of the Illinois Farmers' Institute.

GENTLEMEN:—The Fifteenth District delegates desire to report that they have selected G. W. Dean, Adams, director for the ensuing term for the Fifteenth District.

S. M. BLACK,
President.

JNO. W. COGHILL, JR.,
Secretary.

SEVENTEENTH DISTRICT.

To the Convention of Delegates of the Illinois Farmers' Institute.

GENTLEMEN:—The Seventeenth District delegates desire to report that they have selected Charles F. Mills director for the ensuing term for the Seventeenth District.

S. C. WAGENER,
President.

HARRY GRUNDY,
Secretary.

NINETEENTH DISTRICT.

To the Convention of Delegates of the Illinois Farmers' Institute.

GENTLEMEN:—The Nineteenth District delegates desire to report that they have selected D. H. Shank director for the ensuing term for the Nineteenth District.

S. ROSE CARR,
President.

H. A. ALDRICH,
Secretary.

TWENTY-FIRST DISTRICT.

To the Convention of Delegates of the Illinois Farmers' Institute.

GENTLEMEN:—The Twenty-first District delegates desire to report that they have selected Walter R. Kimzey director for the ensuing term for the Twenty-first District.

WARREN N. WILSON
President.

W. T. WHITE,
Secretary.

On motion of Mr. Frisbie, of Winnebago county, the reports of the several delegations were adopted and the parties named therein were declared duly elected directors for their respective districts for the ensuing term.

On motion the convention adjourned *sine die*.

G. A. WILLMARTH,
Chairman.

A. B. HOSTETTER,
Secretary.

EVENING SESSION, FEBRUARY 21.

The convention was called to order by President Willmarth, who requested Mr. F. M. Higgins of Ottawa, Ill., to favor the convention with a song, to which request Mr. Higgins responded in a very happy vein.

The president then introduced Mrs. Sara Steenberg, director for the 3d district, as chairman of the evening.

Mrs. Sara Steenberg:—Our worthy president failed to say that the lady who should have presided here was unable to be present, and I am a substitute. When the first man found himself very lonely he wanted a companion. I think he has never regretted the request, although he has been under submission ever since. Strength was given to him, but woman was given the power to manage that great strength. The ladies of the Domestic Science Association fully realize it, and have wielded the weapon. They wanted no opposition in the homes in which they were going to do a grand, good work. They wanted more than that; not only did they not want opposition, but they wanted real help. Now they knew that the quickest way to get a man their friend was to ask a favor, and if he will grant it he is your friend ever afterward. The ladies who requested their help sent a resolution to the Committee on Domestic Science to the Illinois Farmers' Institute and this committee presented the resolution to the board. It was adopted and they received the appropriation that they asked for, and the most generous help, not only from the board but from every farmer in Illinois, I think. They are justly proud of this Domestic Science, and feel that it is doing good. There has been a great change in the homes during the last two years.

I have the great pleasure of presenting to you one of the pioneer advocates of education along the lines of domestic science, a lady who needs no introduction to the institute workers of Illinois, Mrs. Henry M. Dunlap, who will present a paper on Woman's Work in Improving the Home.

WOMAN'S WORK IN IMPROVING THE HOME.

By Mrs. H. M. Dunlap.

An ancient Greek once said: "Athens rules the world; I rule Athens; my wife rules me and the household; therefore she rules the world." Did he not express woman's power better than he knew? Is not her position the same at the present time? No one denies that woman holds within her hand the power of making or marring any nation; that power is wielded through the home, with all its various influences for good or evil. Therefore must we encourage better home-making if we would, as a nation, attain to a high standard of moral, physical and spiritual power.

Have we, as a nation, developed as our ideal that of home establishment? Has it entered into and been made a part of every boy's and girl's education—the making of a home? No, we have been seeking for gold and the powers to accumulate it, and have neglected that which would bring to us, not only wealth of purse but of body and soul.

Let us look, alone within the confines of our own state, and note its physical and moral condition. It certainly is not ideal. Look at our fifteen State charity institutions, our five penal and our county poor houses and jails. Look at our court records and see how fast the list of divorces is increasing, then look again into the faces about you and see the unhappiness depicted oftentimes thereon, and you will conclude that all do not go into the courts to settle the unharmonies of the home life. Look again upon the physical condition of those about you. Is not the well man and woman the exception, and not the rule? Listen to the record of mortality among infants and children; one-third dying before the twelfth month and one-half before reaching the age of twenty-one.

We must face all these facts as people existing in one of the most favored portions of God's beautiful earth. Who is responsible? Is it man or woman or both? Both are certainly to blame. But does not a little more of the responsibility fall on woman? Now, I know some of my sister women may censure me for making this statement, but as facts have presented themselves and made it plain to me for the past few years, I must make this assertion and maintain it. Is not her influence greater in shaping and form-

ing the character of the boy and girl than that of any other? Simply because of her constant association with them from the day of birth until they pass out into a home of their own? And not less because of parental conditions which she alone makes.

Ignorance is the greatest foe women have had to contend against. Men tried for centuries to govern and control women by keeping them in ignorance, but the divinity within them became aroused, and inch by inch they have fought their way, until they have almost vanquished their foe, ignorance, and will soon be ready to stand side by side with the stronger sex, equally equipped as to knowledge and personal rights.

But in this struggle for greater knowledge and opportunities they have let the pedulum swing a little too far away from their God-given work and mission in the world, and now they must bring it back to its correct position—the profession of home maker.

We may fight against it; contend it is as much the man's as it is the woman's duty, to do the work of the home; that we must follow out the bent of the talents within; that all can not be home makers; but it will not change this one fact, that if a woman marry, she must develop the talent of making a home or her married life will be a failure. There are a few exceptions where the woman provides for the home and the man does what—neither provides nor makes a home. And there are also cases where man and woman both go out into the world for the purpose of accumulating, but when they do the home life is sacrificed.

Home, what a wealth of meaning there is in that word! What a power for good every woman holds when the opportunity is given her to create an ideal one. Let us seek all knowledge and opportunity, but let us not forget, that within the home we may shape the destiny of state and nation for weal or woe more than we can by occupying public positions and legislative halls.

Woman has a work in improving the home that can and will give her plenty of occupation. When she learns her individual responsibility in the matter; makes a life study and work out of her profession, then and not till then, may we expect to see the unhappy conditions mentioned eradicated, and the peace and harmony of heaven prevail in the home life of the children of earth.

Prof. Robertson calls woman, "the nourisher of the nation because men eat what she puts before them," and herein is the great sin of her ignorance found. Scientists say today, that malnutrition is at the foundation of most of the desire for drink, that it also causes a large per cent of insanity, and that crime very often rests at its door.

These facts should certainly show to women that there is a work for them to do, and that they should know better how to select, prepare and combine foods that the perfect body and soul may be developed. We find plants and animals brought to almost a perfect state of development when foods are provided them according to their needs, and so will it be with man, when a food ration is provided according to his various requirements.

The real application of this knowledge must come through the homes and by women. Today science enters into very few of our household laboratories, the kitchens. It is guess work, and traditions and ignorance of the past. My mother and father lived to a good old age and ate so and so. Why should not I? The reason you should not, is because you can not, with the constitution and tendencies they bequeathed to you by their unscientific living.

An eminent divine recently said, he believed in fifty years from now, we would not need doctors, because by that time we would know the laws of nature and would be willing to obey them. Such may be the case, if we can awaken women to their individual responsibilities so that they may want and seek this knowledge for themselves and their daughters.

To improve their homes in this respect they must think neither time nor money wasted, that is devoted to gaining this knowledge. Money must be invested in books and magazines bearing upon the home in all its phases. Clubs must be formed for the practical demonstration of the work. And real

study must be the result of the club's associations. Yes, even the very busy, over worked house wife, must become a member of this kind of a club, for out of the knowledge gained, more simple ways of living will be learned, easier ways of performing labor will be acquired, and above all when the science of buying, preparing and serving foods develops greater economy of labor, time, strength and money, she will feel compensated for the time occupied in attending such a club. I feel that I can not urge too strongly the forming of such clubs in every neighborhood and in our towns and cities until women of all positions may feel the touch of its awakening power in converting the drudgery of household duties into the science of knowing how and thus elevating the labor of the home to its true ethical basis. The mothers who are members of such clubs will want this science made a part of their daughter's school curriculum and the fathers of those girls will not say it is the mother's place to teach their girls this science.

Statistics tell us that ninety per cent of the whole population spend all their income for subsistence and fifty per cent of this entire income is spent for food. Who is it that has the handling of that fifty per cent of the income and often the entire ninety per cent, but the women? Should they not have a thorough training in its economical expenditure and is there any way in which women can so greatly improve the home as to know the purchasing power of a dollar, and to know that cheap food and cheap articles of apparel, are with but few exceptions, the dearest articles to buy. Food should be bought for the food value contained therein. Then every particle of food should be guarded with a jealous eye that it may not be wasted. In the home of the American working man more extravagance and ignorance can be found than in the homes of any other nation, and why, because of the lack of systematic and scientific training.

I will relate an instance I know personally, and the facts can be proven to you. While in Philadelphia, attending a course of lectures in cooking, I was seated one day by the side of a woman of plain and simple attire. The lecture that day was on the building of fires and care of stoves and kitchen appliances, and the lecture dwelt on the waste of fuel commonly practiced and said any one could run a cook stove with a stated amount of hard coal a month. A woman near me took exception to the statement, saying it could not be done. The woman seated beside me said it could, for she had been trying it for the last eight years, and then told me of her experience. She said eight years ago she came to the food show and happened in when this same lecturer was presenting this same subject. She said she thought the lecturer's statement was exaggerated as she was using double that amount of coal, but she concluded to go home and try her method. She found it to be a fact and she said that was the beginning of better times for her. Her husband was a laboring man, a mechanic, earning twenty dollars a week and she said he came home every Saturday night and handed her the twenty dollars and by the next Saturday night it was gone. She concluded that if the lecturer told the truth about the fuel she had better listen to her advice about foods, so she had not missed one of her lectures for the last eight years, given three weeks annually at this food show. She soon learned to live on just half their income and in a better manner than they did before. With the money saved she was just finishing paying for her third house. That man trusted his wife and she fully appreciated her responsibilities and the result is as given. She was a busy housewife but not too busy to go outside her house for valuable knowledge. Could not other burdened women do like wise if they would.

Count Rumford said a century ago, "The number of inhabitants who may be supported in any country upon its internal product depends as much upon the art of cookery as upon that of agriculture; but if cookery be of so much importance it ought certainly to be studied with the greatest care; cookery and agriculture are arts of civilization. Savages understand neither of them."

His statement has been verified in the little republic of Switzerland and the kingdom of Holland. Two of the smallest nations of Europe and two of the most successful, when viewed from a financial and home-loving standpoint. Every girl in Switzerland and Holland, from the highest to the lowest, is

taught domestic art. The queen of Holland, Wilhelmina, is thoroughly skilled in the science and art of cookery. The children of these nations are early taught habits of industry.

Switzerland is said to be a land without paupers, illiterates or vicious tramps as classes. Do not the mothers and the home makers have something to do with it, when they believe in training boys and girls to honor labor and do not try to shield them from it, as do many American parents.

Mistaken kindness it certainly is, to any child, to say before it, "I do not want my child to work as I have had to work." No, perhaps you do not, but do not tell him so, and in that way train him to think work a hardship, a cross he must never bear. Rather, begin early and teach the child that work is a blessing and that the busy boy or girl will surely be the happy one. Much of real comfort and joy could be brought to the majority of American homes today, if the mothers were training their children early, to assume some of the cares and responsibilities of the home. It is the exception where many home duties are required of the crowded and crammed school children of today. They do not have time to learn to work; they must study, study—and for what? Mothers, stop in the routine of your worldly cares and pleasures a moment and question our school system, to see if it brings the best physical, mental and spiritual poise to your children. Are the children educated for the work of life and the home, or are they, by its one-sidedness, oftentimes made incompetent to cope with the plain, practical duties of life.

We have some cause for encouragement, for there certainly is a rift in the clouds. We are beginning to seek the causes of many conditions, social and otherwise, that are upon us, and out of this seeking better ideas and methods are to be evolved. The mothers are the ones to do much of this work that will unite the home life and the school life so closely that one is but the supplement of the other. It is a work which will build far better homes more than any that is given us to do

We are now just beginning to see what Count Rumford, in his wisdom, saw a hundred years ago. That the art of cookery must be developed, along with that of agriculture, if we are to become a truly prosperous and happy nation.

Agricultural colleges are now scattered all over our land. The father sends his boy to them to learn that which he now feels he is not able to teach him, because of the advance knowledge and experiments that are continually being made. The mothers must feel a need and then demand domestic science colleges for their girls, where it can be shown that all knowledge can be closely intertwined with this science; that the possessor can more readily create ideal homes wherein perfect physical and moral beings can attain to the highest development designed for them by nature.

Another phase of home life is the moral and spiritual atmosphere a woman can bring to the home. If the child early in life, hears criticisms, unkind and uncharitable things said of neighbors and friends, the seed grows in the soil of his little mind until it bears fruit in the years to come by creating others of its kind. The one who possesses an unkind thought or does an unkind act, suffers more than the one toward whom it was perpetrated. It is the law of compensation. Bring into the child's life early the law of love. Teach children to love and care for all God's creation. Let every living thing have a share and portion of their love and care.

Do you think if the mothers of the past had performed their duty toward their girls that today we would see thousands of women wearing dead birds or parts of dead birds upon their hats? Societies are being formed that they may have weight and power to protest against such inhumanity to one of God's greatest and most beneficent gifts to man—the birds. The law of compensation or retribution will again set its seal upon us. Such devastation from insect pests will be the result that women will be led aright only when too late to avert suffering and distress.

How often we see mothers permitting a child to abuse some pet animal, if such be a pet, and it is always with a moral injury to the child. Also permitting, and sometimes encouraging, ill feeling toward a schoolmate or playmate when the earnest endeavor should be toward eradicating hate and re-

venge from his nature, and helping him to climb one step higher toward a perfect life, where love reigns supreme. Truly, no greater wealth and blessing can be bestowed upon a human soul than to enter a home where love and good will towards all exists.

Jacob Riis say: "Amid a thousand schemes for the advancement of mankind the greatest is the one that enthrone the home."

The mothers must realize this fact and their responsibility in making and moulding the moral and spiritual natures of their children as well as their physical. "Housekeeping is the material side of which the spiritual is home-making," and the complete and harmonious home is not found where either is lacking in their essential features.

Therefore, to you busy housewives I would say, study well the essentials and non-essentials of housekeeping and home-making, that the one home wherein you reign may shed its blessings and influence abroad and help others to reach the heights your home attained.

Recitation, by Prof. Hawkins.

Song, by the Clover Leaf Quartet.

THE INFLUENCE OF THE COUNTRY HOME.

Mrs. M. L. Copeland.

Mrs. Chairman and friends of the Illinois State Farmers' Institute:—It affords me great pleasure to be so honored as to have been placed on this well-arranged program. Yet my honor takes a higher pride when placed in the home-making department, as the source of all honor begins in the cradle and at the fireside, and what seems signal to me is that women play so great a part in the old and most honorable and sacred institutions of earth—that of home.

What privileges we women have! And with our privileges, we should remember, come our responsibilities. How strange to us seem the manners of the Orient, where the women are veiled, when to us are vested the high powers of home-making.

Like the Mothers' Congress, The Christian Herald announced that every officer of the congress was a head of a home and mothers from practice, not theory. So we think all placed on this program are experienced home makers, rearing boys and girls, for that home is deprived of the vestments of real golden life and trappings, of mirth and cornerstone of greatness where no childish feet are heard.

How sweetly pathetic is the sympathy when these have been taken by the silent messenger, whose ruthless step has been heard at some time in most every household, as recent in our own.

Now we turn to influences of home, which never die. Youth is like clay in the potter's hand. As location largely bears upon us, we will talk of country home and its influence.

Our homes should be realms of peace barricaded with love, shielding its inmates from the sharp missiles of the world's criticism.

In feudal days, and when "knighthood was in flower," people sought safety in castles. To this day the traveler may see these ivy-grown structures reposing on the banks of the Seine; and should we not, as honest citizens, arise and protect our homes from any vice, and be no honor to the knight who shamefully deserts or inadvertently allows his or her home to go down.

Home influences are some of the indestructible things in nature, and the influence of the country home in this republic is and has been very marked for strength. In these homes the first lessons of economy are learned, work and its necessity is early taught, self-reliance and patience there come by virtue of surroundings. The mind is nourished by different scenes from that of the arena of city life. Room for more connected, systematic thinking,—

thus greater reason, better judgment, and wiser conclusions follow. Thus it is a truth not denied, that many of America's greatest men and women come from the country, and often from poor homes, too.

Great people have first looked out upon the woodland and heard the ripple of the brook among the reeds, and played in the primeval forest, where even the wild beast sought its lair.

Poverty is not to be desired, but there are homes in our banner State of railroads and grain and pork-packing where there is want of life's necessities and where the sheerest economy is used, and luxuries never indulged—many such homes, and many dull lives. The cause of the above conditions I do not fully say. 'Tis often from our greatest known evil, drink; sometimes a lack of industry, and some are unfortunate physically. There are causes, all fulfilling the words of the greatest human sympathizer, when he said, "The poor ye have with you always."

What is the influence of such country homes? We have often asked ourselves the question, no full answer comes; yet our short experience teaches that in thickly crowded tenement quarters in our ever-increasing cities and towns that such homes would give better results in the country, and as the hope of our nation is in the children it is preferable that they be free to commune with God and his masterful presence in nature.

As teacher we call to mind a poor boy in one of our rural schools whose mother occasionally washed for a little help to the family of six or seven, in a cabin. With the influence of kind neighbors and green "fields and running brooks," and kindly endowed by nature, this boy always lead his classes and aspired to be teacher in the same school, and is now a young soldier, serving his country with honor in the Orient, and is at heart most estimable. Had he been cast in the cold, unfriendly, rushing, over-crowded city or town, the result might have been deleterious.

To any who toil and lose heart, in whose lives nothing ever seems to happen, we might speak a word of cheer and thank God for these patient, thinking swains who seem to keep the machinery of rapid going America balanced in the metropolitan centers where every square foot is teeming and seething in a discontented manner for the survival of the fittest. If any doubt that the simple are chosen to meet the great let us tarry awhile at a pioneer cabin in the wilds of Kentucky and in sheer poverty see a babe strengthened by the breath of the forest and air of the hills, who afterward split rails for prairie farms in Illinois, toiling honestly and patiently like David of old when he was shepherd three years in Judea's hills preparatory to being ruler of his people, drawing from nature her most potent forces. Abraham Lincoln is led of God to preserve a nation and obliterate the curse of human slavery. Today millions of school children recite his life, and many bless his name; a product of the farm, whom every patriot and christian loves to honor.

The literature and flippant men and women whose influence is to discontent our rural households is acrid to civilization.

'Tis the honestly employed men and women in cities, towns or country who bear this nation's burdens, if it be termed such. The idle bear watching. The frivolous woman who wishes to leave the farm for an easier life may, in a few years, find the farm gone and herself living a sort of hand-to-mouth existence. This question of leaving the farm calls forth great prudence.

A great influence for good coming from farm life is health. We are taught in the book of books the need of a strong body and the religion in taking care of the same.

There is tonic in the air of the hills. Who has not read Whittier's "Among the Hills" and almost felt the invigorating air of Bearcamp river?

"For health comes sparkling in the streams,
From cool Chocoma stealing;
There is iron in our northern winds,
Our pines are trees of healing."

Out door exercise beats all the gymnasiums from Chicago to New Orleans. Who is not proud when healthy blood courses his body, giving strong brain and clear spirit?

Of all great earthly blessings is to feel that we hand down to those of our blood no taint. Christian citizens of America, farmers, mechanics, or professionals this ought to be our aim. Leaving off the habits of tobacco, whiskey, opium, late hours, bad company, always preserving our bodies blameless. Giving, as Alexandria and Rome did of old, a type of soldiers able to conquer. For never we need did so strong a race of men and women as now, to meet the peaceful demands of this the twentieth century. We remember that Washington, the surveyor, Jefferson, the unique horseman, were from the farm. Pardon us if we mention the fact that we are a product of the country home having been associated in the so-called fashionable circles of school life and have found that the country affords a freer physical world, as to dress. We condemn our Chinese sisters for suffering excruciating pain to have small feet. We women in fashionable circles have a mania for diminity even more detrimental.

In a strong body will abide a clear intellect, strong moral stamina, a pure soul, and in such a tenement there will be happiness. There is real pleasure in farm life. Often our young people tell us there is no society in the country, nothing to entertain. This can be remedied.

Mr. Lowell, in one of his sonnets, says:

"Be noble! and the nobleness that lies
In other men, sleeping but never dead.
Will rise in majesty to meet thine own
Then wilt thou see its gleam in many eyes,
Then will pure light around thy path be shed,
And thou wilt never more be sad and lone."

Our State President, Mr. Willmarth, read a most excellent paper at our Institute last Fall, in which he dwelt upon the constant drain of our rural homes to supply the city with moral young men and women. And we believe the city to be a modern minatour to which, unthinkingly, we pay tribute as in the days of Thesus.

Let us cease to pay tribute for fear we find no Adriadnia of old, to assist us in slaying the monster.

Farmers can make the farm home a more attractive arena. A comfortable house, barn, good horses and vehicles at reasonable command of sons and daughters, music in the home and the gifted ones instructed in the same. A beautiful yard may be had for the asking. Situated in a few miles drive of the depot, where some of the family may go off to public gatherings and to college, keeping in touch with the world by reading good books and newspapers; foster good schools and build churches in the community. In polite home circles all are kings and queens. Such homes make one, in city life, almost envy the independence. And from such homes the feet of our sons and daughters will reluctantly go even when our heads are silvered with time's frosts and we have been called to the "house of many mansions" and they have to shoulder responsibility and face the world.

Who has not read "The Wants of Man," by John Quincy Adams, and though a thread of humor runs through it, felt its uplifting truth.

"I want (who dares not want!) a wife,
Affectionate and fair,
To solace all the woes of life,
And all its joys to share;
Of temper sweet, of yielding will,
Of firm, yet placid mind,
With all my faults to love me still,
With sentiment refined.

And as time's car incessant runs,
And fortune fills my store,
I want of daughters and of sons,
From eight to half a score.
I want (alas! can mortal dare
Such bliss on earth to crave?)
That all the girls be chaste and fair,
The boys all wise and brave.

I want a warm and faithful friend
To cheer the adverse hour.
Who ne'er to flatter will descend,
Nor bend the knee to power.
A friend to chide me when I'm wrong,
My inmost soul to see,
And that my friendship prove as strong
For him as his for me.

These are the wants of mortal man.
I can not want them long.
For life itself is but a span,
And earthly bliss a span,
My last great want, absorbing all,
Is when beneath the sod
And summoned to my final call,
The mercy of my God.

All of us join Mr. Adams in his good wishes, and blessings untold will abide in such a home. Blessed homes make a blessed nation. All there is in heaven or earth is love. 'Tis this that cheers our toil and gilds our hope. At this fountain we drink deeply at the fireside, where pure manhood and womanhood is wrought.

Teach the boys and girls to proudly look the world in the face and say, "I represent a country home."

We think, with the colleges and Institutes, that the farmers least appreciate themselves of any business people.

As the influence of the country home is felt in nation, church and state all should arise to the occasion and know their power and responsibility.

Tell me, gentle traveler, who has't wandered through the world and seen the sweetest roses blow and brightest gliding river, of thine eyes have seen, which is the fairest land?

Child, shall I tell thee where nature is most blest and fair? It is where love abides. Though that space be small, ample it is above kingdoms; though it be a desert, through it runs the river of paradise and there are the enchanted bowers.

Song by the Clover Leaf Quartette.

THE FARMER'S HOME.

By Henry Wallace, Editor Wallace's Farmer, Des Moines, Iowa.

I found in addressing similar meetings in the four great states of the west during the last three months, that when woman has a place on the program she always chooses the same class of subjects, talks from her heart and not from her head. Women's thoughts are of home, and of home life. They are not indifferent to the bonnet they wear, or the way their back hair is put up, provided there are men about; but when they come to talk to an audience of

men and women, they talk from their hearts, voicing the real sentiment that moves them. It is always something about home and the making of the home. And, ladies and gentlemen, it is a great thing for this country of ours that woman's thought turns in that direction.

I consider it an honor that I am invited this evening (the greatest honor this Institute and audience can bestow), to say a few words on this same great theme that so moves and sways the women of America. It is a grand thing, as I said that women's thoughts turn chiefly to the home, for the life of this nation, its future existence and the very existence of civilization depends on three things, viz.: the country church, the country school and the country home. There are questions before us as a nation which must be settled eventually by the one man, who is a capitalist, owning his own farm, and sympathizing with capital, and who is also a laborer enriching his farm by the sweat of his brow and sympathizing with labor. So long as the pastor of the country church teaches the simple truth, so long as the country school teacher educates properly the young minds committed to his care, and so long as woman rocks the cradle and teaches her child the great principles of life and duty, just so long this country, or any other country in like condition, is absolutely safe. Of these three great influences, the greatest is the farm home, with woman enthroned as queen, one hand upon the cradle and the other upon her bible. For the teacher simply carries on the work that the mother began, and the minister simply modifies that work, but the great work of all is done in the country home.

Do you know that the men who are guiding the destinies of this nation today are men that were in farm homes 30 years ago? They are guiding it well and safely. You can go into any city or town in the United States, no matter what, inquire who is it that is bringing things to pass in that town or city, and you will find that the great majority of them were men who were farm born and farm bred. And why is it? It is not because the country school gives a better education. It is in the environment and surroundings of the farm home, advantages that few of us recognize fully. First, that farm home perforce teaches habits of industry. It has an opportunity to teach these that can not be found anywhere else. For, from the moment the farm boy is able to carry in a basket of chips, or the little girl is able to help her mother dry the dishes the habit of industry is being acquired. There is no day in which his father can not make him useful, and thus he becomes industrious, a worker by instinct, just as the shepherd pup looks after the sheep by instinct, or as the pointer pup points at chickens in the yard. Thus the farm boy acquires an instinct of work, and gets into the habit of working until he is not comfortable unless he has something to do. How is it in town? I would like to know what preacher can send his boy out on pastoral visits; what doctor can send his six-year-old boy out to administer medicine. I would like to know what the lawyer has for his boy to do. Hence the town boy grows up without that instinct, this habit of work. Another thing, let me say, before leaving this point, that there is no excellence and no great success in life, without the habit of persistent work; work, work, work. There is no genius, no education, no anything that can ever be attained without the habit of patient, diligent work such as the farm life and the farm home teaches. Besides it teaches economy. It is a matter of necessity, on most farms that the boy should learn this invaluable habit of economy. He learns what a dollar is worth by actually earning it, the only way any man ever yet learned the worth of a dollar, and having earned it he is going to think a little before he spends it foolishly. Thus the boy grows up with an understanding of the necessity of economy, a sort of "saving grace" of the earthly kind. Both kinds are necessary, but he has at least the earthly "saving grace" that stays by him for good, all the rest of his life. Woe be unto him financially if he falls from this sort of "grace."

The town boy learns to ride on the street cars when he ought to walk; he learns to spend money for 10,000 foolish things of which the farm boy knows nothing. Another thought, the country boy is taught on a well managed farm some of the highest practical principles of christianity, and that in a

way that he perhaps never thinks about, principles too that are essential to his success in life to enable him "to bring things to pass." His father starts him out to drive the hogs out of the pasture, and he learns once and for all time that a hog never goes the way he wants him to go, that its head is on the wrong end, and he perhaps says some words that his mother don't allow. He may possibly be so angry that he will say "confound it," When you hear him say that, don't approve of it, but don't you criticize him too severely, because you have done exactly that thing yourself and more than once. That boy is learning the lesson that he can not make things go by force, and that he will have to learn "to bring things to pass" in some other way. When the old sow gets into the potato patch with her darlings dearer to her than all else in the world, and the boy is sent to turn them out, and the old girl looks at him out of the corner of her eye, and waits till he just gets about so close, and then starts off, and all the little pigs start off "woughing," as if to say, "didn't we come it over bubby," that boy gets mad. He gets fighting mad, firey mad. Don't find too much fault with him. You have done exactly that thing yourself. When you send him out to bridle the old mare in the pasture, and he takes some grain and coaxes her, and she comes and eats it very nicely, but the very moment he tries to bridle her she turns around and gives him her heels, and he gets mad, don't scold him. You have tried that before and got mad too.

The education of the farm is merely teaching that boy how "to bring things to pass," and on a properly managed farm it is an education that is exceedingly valuable to him in all after-life. Another thing, the country home brings the boy close to nature. (When I say boys I mean girls, too.) The farmer should live near to nature, and if he don't he is not living up to his privileges as an Illinois farmer. He must necessarily be weather wise, because he is subject to all the whims, as we would say, of the weather. He learns to watch the clouds, especially the thunderstorms that rise up in the northwest. If you boys here are even a little like I was when I was 12 years old, you do a good deal of your praying about the time that cloud begins to come over the horizon, and if you are like I was before I really got hold of the great principles of christianity, you quit praying about the time the sun comes out. I expect your father did that same thing. The country boy is necessarily a student of nature. He knows where the gophers dig; he knows the bumble bees' nest, and how to fight them. He knows the ways of the birds and the beasts. There is a wonderland of knowledge of which he knows the surface, and when our country schools begin to teach nature studies, and open up this great wonderland of knowledge that is hid beneath the surface, why the well managed farm will be a university, and we will learn the great truth, bye and bye, which few of us seem now to understand, that bad farming is a sin. Why? Because it is a violation of the laws of nature's god. We talk of nature as one thing and God as another. It is a horrible mistake. The bible is but one revelation of the Divine will, and this great book of nature is another, a revelation that lies ever open before you, and there is no real contradiction between these two.

Now, wonderful as is the influence of the farm home, it can be mightily improved upon, and the day of its improvement is already a pre-destined event. The farmers of the United States must wake up, and conclude that farming is no longer mere brute strength and awkwardness, but the intelligent mind guiding the skillful hand, or else there is trouble before them, such as we have not seen in the last five generations. If you would educate the boys, you had better begin with the old man. If the old man would educate the boys he had better begin with himself and if he wants his boys to stand square to every wind that blows, he had better begin to square himself while he is still living upon the earth.

I know something of the loneliness and isolation of the farm home. I have often wondered when a boy what there was outside, feeling that there was somewhere a great throbbing life of which I would partake sometime. It was then the day of few newspapers, and few books, and they (the books) were the best. They were books that the farm boy had to read or be absolutely lonely. They were read over and over again, till they became the iron in his blood. We are getting over this isolation. The day is not far distant

when every farm home will have a telephone and rural free delivery; when a girl can talk to her "fellow" and her little heart go pit-a-pat all the time for fear some other girl overheard her talking to that fellow; when the election or defeat of a candidate will be known in every country home within five minutes of the time it is known in the capital city. That will make the farm home a little heaven upon earth.

Now, another thing. You must clear the center tables of your farm home of the trash with which you load them up now. There never was a time in this century when it was so easy to become a great writer, because so much of what is written is absolute trash. You want to clean your tables of the trash, of all this yellow backed novel and the low grade political papers of either party. You now take to your house a paper which tells you, if you are a Democrat, that the Republicans are all thieves, and if you are a Republican, that the Democrats and Populists are all cranks, and fools in the bargain. Your boys read that. And then along comes the man of whom your boy has read, and you take him cordially by the hand and into your heart, and introduce him to you family in your home. To what conclusion does your boy come? Either that the paper has lied, or you are the companion of thieves and rascals. Another thing, put out of your house every paper that loves to tell half truths. Why? Because half truths are whole lies. Get all of that stuff out of your home. Don't poison your children in order to win an election.

Now, let me say to you, young men, you expect to marry some day. You ought to. To the young ladies I will say the same. You ought. It is God's plan. The christian home is the cradle of all that is best and brightest on the face of this earth today. As soon as your best girl plights her troth to you, make this fair and square bargain with her, that you will take the 12th verse of the 7th chapter of Matthew as the rule of your lives. When any question of difficulty comes up, and they will come, no matter how much you love each other, resolve that you are each going to do what you would wish the other to do if your places were reversed. Don't follow the rule of doing to the other fellow what he wants to do to you, and doing it first. This is the practice of a great many men, but it always marks a man, who in his innermost nature, is essentially bad. The golden rule properly applied makes a happy home, and it, when properly applied, furnishes the solution of all the business and political troubles that oppress us today. Another principle that ought to be ever inculcated in the home and burned into the hearts of the sons and daughters, is not laid down by the Man of Nazareth, "Whomsoever is the greatest among you, let him be your servant." For the law of success in life is the law of service. If you want to succeed make yourself so helpful to every man with whom you deal that he must perforce deal with you. Do not stand on technicalities, for it seems to be the rule of life that the young man, during the first years of his work, must do more than he gets paid for. In after years he will get paid for more than he does, and thus the matter will be evened up. A man acquires a reputation, which is power, by being helpful to his fellows, and then comes the reward, for "the laborer is worthy of his hire."

There is another thing that ought to be banished from every farm home, and that is the all-consuming desire to make money in any way possible. It is absolutely deadening and demoralizing, I sometimes see women—good women too—who think that the first great thing is to make money, and the next great thing is to save money, and so they become narrow and cross and mummified, and incapable of taking a broad view of any question. For, my friends, this idea that the great end of existence is to make money is deadly and corrupting—moral corruption itself. The love of money is a root out of which all evil springs. It is the root of all evil in this sense that every sort of evil springs from it. If you take care of your family motherly, you need not be afraid when they grow up that they will not take care of you.

It has been suggested that something be said as to how men should help beautify the home. Well, in the first place, just apply the Golden Rule to your life. When you get a labor saving machine and are proud of it, and ex-

hibit it to your neighbors, then ask yourself, wouldn't my wife be a little better with a labor saving machine too? Put yourself in her place, with all the burdens of motherhood, with all the cares of the home, with the lack of society, with the lack of association, (for the isolation of the farm life bears doubly hard upon her), just ask yourself "what can I do to lighten her toil?" And don't forget to tell your wife that you love her. You told her that when you were courting her, and she was fool enough to believe you. Now you just tell it to her again, over and over again. You will never tell it to her too often, because the more you tell it to her, provided you show your love by acts, as well as words, the better she will like you. See what you can do to make her life more enjoyable. Take her out with you to the institutes. Insist that she join a woman's club. Insist that there be a farmer's club in every neighborhood and that she must go. Tell her you will stay at home and take care of the children. You will be a better man in staying at home and taking care of the children once in a while and she will be a broader and brighter woman by associating with kindred spirits who are trying to make the farm homes in Illinois better.

If my advice or consent had been asked as to when I should have been born, and I had known as much then as I know now, I would have said that I would have been born about the year 1900. I don't know but that a few years later would do just as well, because we are now entering upon the grandest period of the world's history, and the child that is born in the Illinois farm home now has the opportunity of knowing more in ten years after he becomes of age than Methuselah, and all the rest of those old fellows ever knew. This world is going on at a terrific rate, and blessed are the eyes that open upon this latter-day civilization. But there are responsibilities and problems of the gravest kind, as I have intimated to you, coming up, that will require the wisest men for their solution. We are growing in our farm homes a class of men stronger than Cæsar's Legions, more invincible than Cromwell's Ironsides men, who will in time come to the front and do their several parts with wisdom and discretion. I have faith in the future. This is going to be the best year this old world has ever seen. This is the best century this old world has ever seen, and the farm homes and farm influences will make the coming years even more glorious. We can not as yet realize what a blessed thing it will be to live where the Golden Rule is applied honestly; when man will seek to benefit others, instead of grasping everything for themselves, when men will no longer live for the purpose of buying more land to raise more corn to feed more hogs to buy more land, but live with the idea of developing all that is best and wisest and noblest in themselves and their neighbors.

I know a man who is worth half a million dollars. He has toiled and slaved for twenty years since I have known him and twenty before that, and when he dies he will scarcely be in his grave before his sons will be quarreling over his estate, and in ten years none of them will have anything left. It will be squandered in dissipation. I would rather not be born than to have sons like that. And if you live simply to make more money, that is just what you are laying up for yourself. This is a great world to live in, and there is no place where you can get more comfort out of life than in a farm home in the State of Illinois. Let us get all the good out of it by so living as to leave this world better than we found it. I thank you, ladies and gentlemen, for the attention and patience with which you have listened to this rambling address.

MORNING SESSION, FEBRUARY 22.

The Institute was called to order by President Willmarth at 9 o'clock, who announced that the meeting would be opened by prayer by Reverend W. C. McCall of Mt. Vernon.

Almighty God, Thou art the God of all nations, and Thou art our God. All improvement and progress in civilization are but the records of Thy leading. Those people have grown greatest and been most illustrious and successful, Oh God, who have walked in the path of Thy leading, and those nations have

builded most grandly who have had Thee as their architect. Those peoples have prospered most in agriculture and horticulture who have grown under the light of Thy glory, as the flowers grow beautiful in the light and glory of the sun. We come this morning, Oh God, into Thy presence recognizing Thee as the God of all nations, and as the ruler in the heavens and on the earth. And we would recognize Thee, our Father, in this gathering of agricultural people, and we pray Thee that Thou wilt help them to see, as the nations have seen, that those people are blessed and happier whose God is the Lord. And now we pray Thee that Thou wilt help us, this coming together of these people from the agricultural sections of this State in convention at this place. Oh God, we would bless and adore Thee for the men of ability and the men of energy, and of purpose and public spirit, who have organized and led thus far in this enterprise. And we pray Thee, our Father, that Thou wilt grant blessings unto each and every one who is present here this morning, in their labor of brain and of hand. Grant Thou that they may be led by the light of Thy countenance, and we pray Thee, our Father, that this coming together here in Mt. Vernon at this time may bring them something along all lines that this people represent, as a resultant of this meeting in Mt. Vernon. And grant further, our Father, that those here who are separated from their homes, that Providence may protect them, and that they shall return to their homes in health. And now we pray Thee that each and every one here present may be so wrought upon by Thy spirit and led by Thy wisdom and spirit of all grace, as when life's labors are done, and the masters of the day have rolled away, these fathers and mothers, husbands and wives, sons and daughters, may be gathered in unbroken bands at the beautiful river that flows to the Kingdom of God; and Lord bless and keep them, and shine upon them, and be gracious unto them, and give us an abundant prosperity. Amen.

Song by Clover Leaf Quartette.

President Willmarth: I can assure you that it is with the greatest pleasure that I introduce to you this morning our esteemed friend, Col. Fulkerson, of Jerseyville, President of the State Board of Agriculture, who will preside at this session.

Col. Fulkerson: Mr. President, Ladies and Gentlemen:—There is nothing of more importance than the subject of farm crops. Farm crops are figuratively and literally the foundations upon which the structure of agriculture is built, the pendulum of the financial clocks, in the great world center, to decide whether or not the balance of trade in this country is for or against our great nation. But we must know that blue grass and clover are both farm products, for without them and corn we would have no export cattle, hogs or horses to send over, consequently no gold would come back and we would have stringency and hard times. I notice also upon the program that we have with us today a railroad man who is willing to come and talk it over. This I am glad to see. There is no reason why we should cut each other's throat. The railroads can not run without us, and we can not live without them, at least it would be very poor living. We should talk it over, and they should give us a square deal, and in return we should stop sending demagogues to the Legislature, who introduce bills for no other purpose than to get the railroads to buy them off, who try to make you believe that if you do not send them right back the whole country is going to diminish bow-wows. If you will give me a good foundation of clover I will undertake to raise you a first class crop of any kind you name. The farmer who plants on clover plants wisely and may reasonably expect a good crop. Without it the farm will eventually run down, I am not going to talk to you about clover, however, because we have with us today the grandest old Roman of them all, Mr. Wallace, who is here to talk clover. If you do not learn something it is your fault.

Mr. Wallace:—My friends, you are not raising as good crops as you did years ago, perhaps. Why aint you? God Almighty was here a long time before you, and he was preparing this land for your occupation. He was putting into the soil through the crumbling and wearing down of the rocks, all that it needed. More than that, he was storing it with humis, or partly decomposed vegetable matter, and, from the looks of this country, I think he made a pretty good job of it. Your land would then stand both wet or dry weather. It responded manfully and freely and would grow about anything that you asked of it, except possibly something that does not belong to this latitude. You tickled it with a hoe and it coughed up a harvest, and kept that up for 12, 15 or 20 years. Then things did not go just right. It become sick. The trouble was too much grain. I asked an old man what to do for a sick cow, and he said, "Feed her clover." I didn't know whether he knew anything or not, but I reasoned it and I commenced using it, and the cow got better. You kept on plowing your land and raising different kinds of green crops, until finally it would not stand dry weather the way it did before. It would not stand wet weather, either. Then the chinch bugs came in. Frankly, has not this been your experience? I expect you thought something was wrong with the administration. If you were a Democrat you thought the Republicans were awful sinners, and if you were a Republican you thought the Democrats were even worse. And then possibly you became sour and despondent, and thought the world was going to the devil, and the farmer was a poor, down-trodden serf. What was wrong was with you then. Simply you were not using your brains. You have been farming for 12, or 15, or 20 years, and have probably exhausted this humis, this partially decaying vegetable matter, which the Lord has been working for thousands of years for you, by growing nothing but grain. You have gradually completed the decomposition and have as a result ash and gas. Your land is wetter than it used to be, unless you drain it; it don't stand the dry weather as it used to, because you have got rid of those little sponges in the shape of partially decomposed matter, or humus, which keeps it from packing. That and that alone is the matter. I expect some of you are complaining that the land will not grow clover as it used to do. I haven't any doubt about it. You have concluded that something is wrong. There is nothing wrong but with you, and your fathers before you, for just as soon as a man exhausts this humus in his soil the Lord locks up the rest of the fertility. You can not permanently destroy and waste the fertility of any land that was naturally good. That can not be done, but you can put the land in such a physical condition that it won't yield you more than a bare living. That is the Lord's way of saying to you, "Get off that land." You decrease the fertility until it just about pays the cost of production, then it is practically exhausted, that is, exhausted for you. The good Lord, however, is only saving and locking up the fertility that remains for your sons or grandsons who will think and farm "with brains."

What are you going to do about it? Of ten or twelve elements which are necessary to produce wheat, corn, oats, or any other grain, all exist in inexhaustable abundance in all soils except three or four, potash, phosphoric acid, lime and nitrogen. The first three are the result of the decomposition of the rocky elements in the soil. Over the entire drift region of the west there is usually an abundance of these, for the surface soil has been brought from widely different sections and thoroughly mixed. Nitrogen, also, is usually abundant in the virgin prairie soil. It is, however, readily worked over by microbic action into nitrates, and, these being soluble, are easily washed away. Our soils generally first fail in nitrogen because of the amount removed in crops and leached out of the soil, and when land begins to be worn out, as we say, it is usually deficient in two things, nitrogen and humus. The former may be restored by commercial fertilizers, but this can not be done profitably until nitrates are much cheaper than they are now or the price of grain much higher. Fortunately for us, nitrogen can be supplied to the soil at practically no expense whatever wherever we can grow legumes or artificial grasses, such as the clovers, beans, or peas. Let me explain further:

All plants obtain their carbon for the most part through their leaves. The green coloring matter in the leaves has the capacity and power in some mys-



terious way of dissolving the carbon dioxide of the atmosphere. It is that which you breathe out in your lungs, that which makes your room smell bad in the morning if you haven't the windows up, that which makes you have a bad headache when you attend church or a Farmers' Institute, if there is not a janitor around to keep the windows open and let in fresh air. Some times I think the most important man about an Institute is the janitor. What is death to you is life to the plant. It breathes out the oxygen and works the carbon over and digests it, and builds up the great body of the plant with it, and that is what you use to keep up the heat in your animals. There is only one class of plants, the legumes, that utilize the nitrogen of the atmosphere. Do you know how rich you are if you have a quarter section of land. When I was a boy and went to school, the air was said to weigh 14 pounds to the square inch, and four-fifths of that is nitrogen, and that is worth 15 cents a pound. Just think what a world of wealth is passing over you every day in the year. You must have a muscle making food, and to get that you must have a legume, or some plant that can make use of this infinite store of nitrogen floating above you. You say, what is a legume? Well the pulse a legume family is the biggest family of plants in the world save one. The world of men would perish if it were not so. It involves a great many trees and weeds and many so called grasses. The legume is not a grass, although we generally call it so. And of all of them the clovers are the best. Always raise clover if you can, and if you can not, take the next best thing. Now, if you will pull up a root of clover or cow pea, or Alfalfa or bean—these are all leguminous—and hold it up, you will see a whole lot of bumps or nodules on its root, and show it to a farmer who don't read up. He will probably say that is the clover root seed, and when clover root dies that seed grows. This farmer is a good deal like some professional men. They know a lot of things which are not so, and when you find out what they know not is so, and what they know not is not so, you will become a wise man. If you use a large microscope you will discover that this knot or tubercle is another plant altogether. It is not a clover plant. It is a case of symbiosis or associated life, two plants living slowly together and working to each other's hand. If you will cut it open you will find that in the tubercle there is a great lot of germs, or wiggles, or bacilli, and that in some way, which no man has been able to ascertain, those microbes or germs in those tubercles on the roots of this legume, are able to utilize the free nitrogen of the atmosphere. It would take me about two hours to explain all the steps, so you will have to have faith in what I tell you. You could take absolute rock and pound it up and wash it, and take away every particle of fertility, and put that sand in pots, and apply potash and phosphoric acid, and simply wash that sand with water that had run through clover soil and you can grow as big crops of clover as you could grow on the best kind of soil; while if you put on everything else, nitrogen included, and water it with sterilized water, or water that had not gone through clover soils, the clover would simply sprout and then die.

The beauty about clover is this, that you can grow a crop once in three or four years, feed it to the live stock and gradually increase the supply of humus in the soil, and besides can supply it with all the nitrogen that the plant needs. And having thus provided yourself with nitrogen in the plant you are able to furnish a fully balanced ration for your milch cow or for any kind of young stock. We grow clover for three or four things. We grow it for hay; we grow it for pasture; we grow it for seed, we grow it for humus and to subsoil the land, and let me say to you that I would not own land in a country if I could not find some kind of leguminous plant to keep up the supply of humus, and keep it from exhaustion. No country was intended for man to live in that is not furnished with some kind of a legume, by which the land can keep up its fertility.

I see in riding through this country that I am under new conditions and circumstances from what I would be in one or two hundred miles north, or five hundred miles west. And it is possible that some of you have land that used to grow clover, and don't do it now, and you may have a difficult matter to get a start again. I want to say to you that you must grow some kind of legume once in three or four years. If you can not grow clover success-

fully, grow cow peas. As far as fertility is concerned they serve exactly the same purpose. You find as you gradually come south it is more difficult to grow clover, but here the cow pea comes in. One hundred miles west of the Missouri river it becomes difficult to grow clover, and then the alfalfa bean comes in. They are the salvation of that country. You ought and say to grow cow peas in this country, but if not you must have some kind of legume. What I am trying to do is to impress upon you the importance and the necessity of growing some kind of a legume. In some parts of Illinois you have hard pan in your soils. You are so far south that you do not have the deep freezing that we have in Central Iowa, the deep freezing not only one year, but for ages, and you get down to a certain point and you find that the hard pan begins. And the farther south you go the harder the pan seems to get, until in some parts of Missouri all you have got to do is to scoop a hole and have a cistern or pond, a pond that you could not make to save your life in many parts of Northern Iowa.

I would try clover, and cover it deep enough to have heat, air, some little light and moisture, all these, without which no clover or any other plant can grow. How deep you must determine for yourself. I am not going to tell you. No man can tell you till he goes out to sow his seed. In Northwestern Iowa it should be covered as deep as you put in your oats. I asked Secretary Nelson, then professor at Ames, to make an experiment, which he did, by sowing clover at different depths from one-quarter of an inch to three inches, in a rather light sandy soil. He found the quarter-inch came up first and looked best up to July. His three-inch sowing was the best in October. You may have light and air and heat, as well as the bean flower, but it will not grow. You can put it down six or even four inches under the surface, and it has moisture and heat, but it don't grow. It has no air nor light. I have known it to lie ten years in a manure pile where it had heat and moisture, but no light nor air, and it did not grow until it got the light, and then it started out as if it had been resting, but anxious to grow for all these lost ten years. I have known clover to lie upon the top of the ground for two years, and then grow after it had sufficient moisture, for clover has almost a human intelligence. It waits till it gets thoroughly soaked up, and it takes a good deal to soak it up.

A certain per cent of clover has a very hard shell and does not grow the first year. When you sow clover and timothy you find, usually, that you have nearly all clover the next year. The second year after sowing you have usually about a third of clover. What has happened? All those clover plants that produced seed died. They died just like you and I will when we have completed the end of our existence. We will then die. But the plants that come up the second year are those that did not start the first.

Clover can be made a short perennial if you will just keep it from producing seed. It will go on and work, trying to subvert the end of its existence, that of producing its kind. I have known men watch individual plants for four or five years, and by marking the plants have demonstrated that they will grow four or five years if not allowed to bloom. If you do not pasture too closely your clover will stay with you. If you let it produce seed the individual plant will die but will reseed the land. Now, I have been talking, perhaps, a little wild and not hitting the mark exactly, because I have not got the exact range in this latitude; but if you will ask me any questions that may occur I will endeavor to get the proper range.

Delegate: Please tell us what hardpan is; we want to be able to recognize it.

Answer: It is a kind of clay that won't let the water down through it, and won't let it up if it is down.

Delegate: We have here an impervious clay, or almost an impervious clay, but we don't believe it is hardpan.

Answer: I never knew a man who admitted he had hardpan. It is like milk sickness in the next county.

Delegate: Explain a little further your idea about letting clover seed grow. You said if you could pasture it, and not allow it to seed, it would stay for at least three or four years.

Answer: My idea is that clover is a biennial; that is, like a turnip or parsnip, it grows one year and seeds the next. After it has produced seed it has served its mission and dies. You can keep clover up in your fields indefinitely if you will take a crop of hay and cut it when the middle bloom turns brown. That is as near perfect bloom as possible; and then pasture off. The aftermath of it has produced seed which will always leave enough to reseed the land.

Delegate: I want to give my experience in clover in central Illinois. I have experimented a good deal in clover. I sowed eight acres and it came up and was a good stand, and went to seed. Along in the fall, to my surprise the last of it was dead. Is there any relief in crimson clover, and was there not a time when you could grow clover on the flat prairie?

Answer: You can not grow crimson clover, not to any success north of Coledin. It will grow, but it won't stand the winter. On timber land you should be able to grow clover—mow or pasture it the next year—possibly get a crop of seed—then plow under. I would in all cases grow a mixed crop of timothy and clover.

Delegate: Is it a good feed for horses?

Answer: It is poor feed for driving horses, but I feed work horses on it right along. It is liable to give the horse the heaves on account of the dust. I would not advise giving a horse much clover that is standing in the stable in the winter and without exercise. Clover is the best of all forage for all young animals and for dairy cows in this latitude.

Delegate: We almost always feed clover to horses. We feed it to cattle, horses and sheep, and what is left goes to the hogs, and I have found it the most perfect horse feed, whether standing in the stable or not.

A. I would not feed it to a horse standing idle in the stable for fear of azoturia. This is a disease to which horses not regularly worked and fed on nitrogenous feed, such as bran or clover, are subject, and for that reason I would prefer feeding a horse standing in the stable, and worked only occasionally, eat straw or timothy hay and corn. Timothy and clover mixed are permissible. If you don't do this you may take your horse out for a brisk ride to town and have to come back carrying the saddle, leaving a dead horse behind you.

Just here I wish to impress upon Illinois farmers one important, and very important point. You have found that by growing clover you can restock your soil with nitrogen from the atmosphere. You have found, also, that by turning under the roots you can supply it with sufficient humus to last for three or four years. You, therefore, conclude that there is a mine of wealth in clover and that it is cheaper to buy clover seed than to haul out manure even if you had it on the farm in the barnyard ten feet deep. If you will grow clover, or, failing in that, any other legume, feed it to stock, and haul out the manure conscientiously, you can build up your land and keep it built up indefinitely, but I wish to warn you particularly that if you grow clover or some other legume, feed it to cattle, let your manure go to waste, plow it under, grow grain to sell on the market, and keep on in this way, you will eventually rob your land both of potash and phosphoric acid, of which large amounts are required by the clover plant, and finally make it so poor that there will be no financial salvation for you. There will be an abandoned farm because the farmer has abandoned the first principles of agriculture. Bear in mind that clover without manure makes the fathers rich and the children poor.

Delegate: How much clover do you sow to the acre to get a good stand?

A. Eight pounds and about a peck of timothy. On land that has never grown clover before. I would sow ten pounds, and to make assurance doubly sure, I would mix the clover seed with two or three times its amount of surface soil from some land that had grown clover. The object in doing this is

to be sure to introduce the germ. I would do this particularly on lands that had been farmed to grain for twenty-five or thirty years, as many of your lands have been. It might not be needed, but it would cost little either in time or trouble to do it, and in case your land was deficient in the germ of the clover root tubercle, this would supply it. A better way to supply it is to cover it with a thin coating of manure from clover-fed stock.

Chairman Fulkerson then introduced Col. J. H. Brigham, Assistant Secretary of Agriculture.

Mr. Brigham: Mr. President, Ladies and Gentlemen:—I am very much interested in the discussion this morning. I am very glad to note the fact that these practical farmers seem to be giving some attention to these very important questions. Before moving to Washington to take my place in the department, I lived in the State of Ohio, and have been all my life a practical farmer, and have been greatly interested in every question that affects agriculture. I believe that agriculture is the most important of all our industries. I do not belittle the other great industries, but they all rest upon agriculture. That is the foundation. If the farmer fails to gather the harvest we will have hard times on the farm and everywhere else in our country. Now we have professional men of all kinds. We have professional promoters, who go about with intelligent schemes, and in which men invest their money. Some of them with profit, many of them without profit. Many of these investments are permanent investments. We have the professional grumbler and growler, professional discourager, disheartener—calamity howler he is sometimes called, that would have the farmer believe that there is no more profit in farming, that we are all going to the diminition bow-wows, as Col. Fulkerson said. Now I know very well as a practical farmer that the farmers have had some difficulties with which they have had to contend. I know that there are difficulties, and all that, and yet I believe it is best for us to spend a portion of our time at least in looking upon the bright side. I know a good old mother who, when everybody was discouraged and disheartened and finding fault, would sit down and count over the many good things she had. I think it is well to give a little encouragement to the farmer. We get the idea sometimes that we don't amount to much in the matter of wealth production, for instance. When we are discussing riches we think of the banker, the great railway corporation, and of these other wealth-producing industries of our country. It never occurs to us to think of the farmer in connection with great wealth. Now this is a mistake. The last report of the treasury department shows that we have in circulation in this country of all kinds of money more than two billions, the largest circulation ever known in the history of the country. Now, if you had all this money, every dollar of it, at your command, and would start out to buy the annual product of the farmers of our country, you would have to go somewhere and borrow one billion and a half more money. Just think of what that represents in the matter of wealth. Talk about the gold and silver mines. They are productive of wealth but there is not enough produced in any year in the United States to buy the eggs laid by the farmers' hens. There is not enough produced annually in the whole world to buy the wheat crop of a single year in the United States. I speak of this for the purpose of impressing upon the minds of my brother farmers that as wealth producers the farmers in the aggregate amount to much. Individually there are not many millionaires among us. Most any of us could make use of more money than we have individually, but in the aggregate the farmer is really the wealth producer of this country. We could not dispense with men engaged in other callings without great inconvenience. While we could survive the loss of some of them, if the physicians should refuse to treat the sick some of us would manage after a while to die a natural death without their help. If the lawyers should all go on a strike and refuse to plead our cases in court we could manage to live in some sort of peace and harmony and save a little money by it probably. If the ministers should refuse to preach the gospel, of course we need that, a great deal of it, but if they should refuse to preach some of us might manage to squeeze through.

the golden gates without their help. And so I might go through with the entire list, but when you come to the farmer, if he should strike, if he should refuse to till the soil for twenty-four months the world would starve. It is an indispensable calling of man, without which comes not only suffering but death. So anything, and any means that can be brought to bear to develop agriculture to make more certain and sure the profits from the results of the farmer's toil, is a benefit not only to the farmer, but to all classes in our country. I like to think of that. I like to think that we are all interested, all are benefited by the discoveries that are being made that will cheapen the cost, not reduce the price, but cheapen the cost of production, and make it more certain and sure. Great progress has been made in this country in the last two or three decades. A few years ago when brother Wallace and myself were boys, longer ago than I wish it was, very little was said about promoting the interests of agriculture. There were a few farm papers, a few men were making experiments, a few men were writing, but the general public did not dream of the fact that it was necessary to give especial attention to agriculture, that the Government of the United States, strong and powerful, should lend its aid and help to the tillers of the soil. There was not a dream of that when I was a boy. But in these latter days, there has been more discussion of the agricultural interest, more writing and more thought given to it than to any other industry of our country. We are feeling the necessity of it, and the advantage of it, and one of these influences, one of these agencies that work for the promotion of agriculture is the department of agriculture at the Capital of the United States, a young infant, hardly of age, born just a few years ago. When the first thought occurred that it would be well enough to pay some attention to agriculture a single clerk was given a desk in the interior department, and the stupendous sum of one thousand dollars to watch and care for the agricultural interests of the United States. I don't know whether he did much good or not. He drew his salary regularly, at any rate, as I have no doubt most of us do who live in Washington. But after a time the work expanded a little, and finally, in 1862, in the hour of national peril when the very life of the nation was at stake, Congress created a Department of Agriculture, and gave a fair appropriation to start the work. The work commenced and was prosecuted to some extent. But there were a few farmers in this country who believed that this great industry and this great class of patriotic, law-abiding citizens were entitled to a representative in the council chamber of the chief executive. They believed that all interests, as I have said, would be promoted in the farmer's land by wise legislation, by investigations conducted by scientific men, by experiments in the interests of agriculture was much more productive, and they urged making the head of the department a secretary who should meet in the cabinet, and consult with the president and his associates. A great many farmers thought this was a ridiculous proposition. Very few believed it could be adopted, but there was an organization of farmers in this country. They inaugurated the movement. Year after year they made their attempts, and had a few men in the national congress and at every session a bill was introduced which received very little consideration. Defeated time and again, scoffed at, and ridiculed, this organization understood, or thought they did, the grand purpose which they had in view, and they never knew the word defeat. When defeated they re-organized, laid out a new campaign, and pushed the work, and finally success crowned their efforts and we have a Department of Agriculture, with its chief in the council chamber of the President, it was a great step in advance. This department is today recognized by the statesmen of the country, and by the great men of the country, who take broad views of all these questions, as the most important department of the national government, so far as the material interests of our people are concerned. It is important to have at the head of this department a man who is in full sympathy with the agricultural classes, with the real work that should be done in this department, and I am glad to be able to say that we have at the head of this department a practical farmer, a man whose interests are all wrapped up in agriculture, who is doing his level best to make this department useful to agriculture and the farmer. One of the first circulars sent out to the heads of the divisions required a report in detail and in writing of just what that division was doing for agriculture. It was a hopeful sign. Those chiefs knew that if they could not make

a good report or fair promises for the future, some other man would probably have their job. It is the purpose of the secretary that the real work, whether scientific or experimental, shall have in view all the time the advancement of agricultural interests. I will go over very briefly some of the things that department of agriculture has succeeded in doing to help agriculture since it has been created. I can not go very fully into details, but will call attention to a few things.

The cattle growers were very much alarmed a few year ago by the inroads made by pleura-pneumonia, and as the result the Bureau of Animal Industry was established, and it was made their business, the business of this bureau, to look especially after the live stock interests of our country. They went actively to work, and found that the only way to deal with this dread disease was to stamp it out, and in a very few years, less than a decade the last case was destroyed, and we have been absolutely free from it ever since. We have suffered much from Texas Fever. There is no remedy discovered yet by the Bureau of Texas Fever, but they have discovered that by dipping the cattle, and destroying the tick that the disease will not spread into other territories, and lines have been established upon which they can not pass unless dipped and rendered safe to be admitted in these sections. We are doing the same thing with the other diseases, with black-leg. It is creating great loss. We have discovered perhaps, not a specific, but a preventative of this disease. It is sent to the farmers for trial, and glorious reports come in as the result of the application or use of this preventive. Some of those dealers who are having this material to sell are making a great protest at the present time because it is distributed by the department, but I have no doubt that the people generally will sustain the department in making this distribution free for the present, at least until it is very thoroughly established that it is a good thing, as we fully believe it to be now. They are making the same regulations in regard to the spread of the diseases of sheep. People are not permitted to ship diseased sheep from one section of the country to another without they have destroyed the insects or parasites that prey upon them. Hog cholera has caused a loss to this country of millions of dollars annually. It is believed by the Bureau of Animal Industry that they have discovered a remedy for hog cholera, and the experiments show that 80 per cent of hogs that are treated with this live, while 80 per cent of those without the inoculation die. We believe this remedy will be of very great value to the farmers. We are inspecting the animals that are exported, knowing something of the opposition to the introduction of our meats into foreign countries, not because the meat is unhealthy, but because the farming element in those countries are unwilling to meet in competition the cattle and hogs in this country. The claim that our meat is diseased is simply an excuse that they make for shutting out our products. Our system of inspection is now so thorough and complete that there is no just cause for any complaint, or fear on their part. Experiments show that the meat sent to Germany, for instance, from this country, is healthier and better than the German product itself. We have made improvements in the arrangements of the vessels, by which stock goes abroad, and the improvement is so great that it has reduced the insurance charge on cattle from \$8.00 per head to \$1.00 per head, saving more than the entire cost of the bureau right there.

You would be surprised if you were to spend a few days in the department at Washington, to see the work that is being done by this very important bureau. We are holding in check the men who are speculators, the shippers who would send broadcast over this country diseased animals to destroy the flocks and herds of the farmers. They are held with a very firm grip, and when a herd passes the inspection it is all right. Occasionally they will go through without inspection, but every railroad understands perfectly well that they can not afford to disregard the rules issued by our department for the transportation of these animals. A few years ago the largest exportation of agricultural products was \$550,000,000 worth. There has been an increase of more than \$300,000,000 annually in our exports; a little over \$850,000,000 were sent abroad in 1898; nearly as much in 1899. Now, just think what this means. Understand that we have clothed and fed our people better than

any other people in the world, and there has been an increase in the three decades representing thirty millions of our people. They have been clothed, and fed, and yet the annual exportation has increased more than \$300,000,000. Just imagine now what would happen to the farmers and to this country if there was no market for that surplus, outside of our own country. If it was left on our hands to rot, what would become of the farmers you can imagine. It becomes, then, of the utmost importance that somebody look to it to see that the demand or markets abroad are fostered. The Department of Agriculture has undertaken to do that work. We are sending agents abroad to hunt out new markets for the American surplus, and are making every effort to introduce our commodities into countries that know little or nothing of them, selling them for what we can get for the purpose of introducing them. We know perfectly well that if they get a taste of our butter, and of good American cheese, and of our fruit over there, that they will never find anything anywhere else in any other country that is quite as good. Our butter ranks up with the best in the old country, side by side. Now the time will come when we want a market, perhaps, for our butter. There is now a market for all the good butter that is made in this country; but the time will come when this market will not be so good, and then we will want an outlet somewhere else. We are laying the foundation for obtaining or securing these markets. Our friends over here in Chicago manufactured the Chicago flats and called them good dairy cheese. They nearly destroyed our market for good cheese. You may fool people once or twice, but if you keep on they will not have it. There is no reason why our people can not manufacture good American cheese honestly, and there is no reason why we should not have a market for it. We are trying to do everything we can to develop all these markets.

It is not a good thing for us to send our grain abroad if we can consume it or manufacture it into something else here. We can not afford to send our wheat abroad. We ought to have it ground and sell the flour, keeping the bran for our animals at home instead of sending it abroad. There is no reason why we should not supply the foreign markets with good horses. There is England engaged in war over there. She wants good war horses. We ought to have been able to supply the demand with just the kind of horses they want. Out here on the great grazing regions they are selling horses for from five to ten dollars a head. There is no excuse for that. The breeder ought to grow a horse the market demands and would absorb. They could get \$100 for the horse if they would take proper care and breed it up. One thing that has kept the farmers poor in this country comparatively has been the fact that they have raised too much of some things that the people did not care to buy, and not enough of the things for which there was a good demand. We make no profit in growing enormous crops, if there is no demand for them. The four largest corn crops we ever grew in this country brought us \$230,000,000 less than the four smallest crops that have been grown in 20 years. The four largest crops of potatoes ever grown would have brought if sold at market price \$70,000,000 less than the four smallest crops. If you grow enormous crops, producing more than the markets will readily absorb, then there will be loss instead of profit. The agricultural department is trying to impress the idea upon the minds of the farmers that they must produce what the world wants to buy, and not in quantities greater than they want, if they are to make a profit all round.

We hear of great combinations, some times called trusts, that try to regulate production and fix arbitrary prices, etc. Why do they do it? To insure profit and prevent the kind of competition that produces more than the markets will absorb. The farmers must give these questions some attention. I do not think we can organize a farmers' trust and make it a success, but we can watch closely, and have men who are qualified make the investigations to find out what the world's markets will absorb and supply them with what they want. We import into this country many agricultural products that ought to be produced in this country. I will not go into details, but there is beet sugar. We can produce all that we want and will probably do so, unless we find that we can get very cheap sugar from some of the islands brought under our control as a result of war. They are growing tea down in South Carolina successfully, and it is good tea. However, I do not advise growing

tea in Illinois. It has been very clearly demonstrated by scientists that the trouble in some sections with some farmers is that they are trying to grow some crop on their farms not adapted to the soil or conditions or climate. We are studying the kind of crops that should be grown in certain sections, and out of this study and investigation there is to come great good for the farmers.

I used to think that all you needed to do if you wanted to know what your soil lacked was to send it to the chemist and have it analyzed. That is not true. You have got to have experiments made by the growth of crops, with application of fertilizers, in order to ascertain just exactly what the soil needs. All this study and work is going on successfully at the Agricultural Department.

We have met with great losses from the ravages of insects. A few years ago we did not know very much about them. It becomes absolutely necessary that some one shall make a study of these insect foes of agriculture, and tell the farmers what to do to protect themselves from loss. That is what we are doing, and doing very successfully. I know farmers that are harvesting every year without failure magnificent crops of apples, and getting from \$5 to \$7 a barrel for them. It is because they take all the precautions to protect their fruit. This work is in its infancy, but grand and glorious results will come to the farmers of our country, and not only to the farmers but all who are dependent upon the farmers for what they eat and what they wear. I might follow in detail the work of the various departments, but you would grow weary. Every line of work that we can conceive of that will help the farmer we are pursuing. We invite suggestions from practical farmers, or from any source, they are carefully considered, and if there is anything in them they are worked out thoroughly and well. It is just as important, sometimes, to discover what you can not do as to discover what you can do. The department is trying to protect the farmer from imposition. You know there are men who have various patent things to sell to double the production of your cows, etc., and a great many things they have to sell the farmer to make him rich. They do not seem to be anxious to keep these things themselves and become millionaires. They love the farmer so they want to let him get rich. The department is endeavoring to protect the farmer from impositions of this kind. You have had to contend for years with counterfeit products, with the oleomargarine. It was being sold and consumed as genuine creamery butter, because if the man who spreads it on his bread knew what it was he would not eat it, except in a very few instances. I have heard a few men say they liked it. It was cheaper, and they bought it knowing what they were buying. But the great mass of consumers do not feel that way today. When the proposition was made to prohibit any coloring matter at all, the producers said, "Why, it is repulsive in that form, and the people won't consume it. We have got to make it look like something that it is not in order to sell it." We have had some legislation, but the laws have not been rigidly enforced. Men have been violating the law and have escaped the penalty, have never been prosecuted as they ought to have been. A compromise for a few dollars in the treasury would allow them to go scott free, and continue their work. One of the first things the department of agriculture did under its present head was to protest against compromising any of these cases. When a man is convicted of violating the law we see that he gets the penalty. The agricultural department can be counted on along these lines all the time. We are not afraid of the results, which so far have been very satisfactory. Thorough legislation is needed in the interest of agriculture. We are for any legislation to protect honest producers and innocent consumers. There is no reason why a man should be permitted to sell a counterfeit article in this country with impunity. I fail to see the difference between a man who puts out a counterfeit butter and one who puts in circulation counterfeit money. I think it is in favor of the money, because it does not injure you beyond the loss of the dollar.

Suppose you go to the grocer and buy a dollar's worth of butter and give him a silver dollar. It is supposed to be all right, but it turns out to be a counterfeit. It is proved against you and you go to prison, as you ought to. That is all right. You take a good silver dollar and buy a dollar's worth of butter as you suppose, and are sold a counterfeit. Why should he not go to prison along with the man who put the counterfeit dollar on the market?

There has been a marked increase in farming in the last two or three decades. In 1870 the number of farmers in this country was 2,660,000; in 1890 it was 4,510,000, I know that here and there there has been a decrease, in the aggregate there has been a great increase. We are trying to send abroad men to make careful investigations to see if we can find something grown in other countries that can be grown here with profit.

I think the dairy interest and the cattle interest has been the most profitable interest in recent years. There was a time a few years ago when we had a period of depression. The weather department has been doing good work for the farmer. They can tell with considerable accuracy what the weather will be a few hours in advance. 80 per cent of the predictions prove true, as the record shows. Sometimes a storm is traveling in a certain track at a certain rate of speed, and it is telegraphed to Washington, and its course is followed. Sometimes the course changes suddenly; sometimes the velocity increases, or decreases, which makes a change but they hope to do a great deal of good to the farmer in forecasting the weather. The farmer can go to the station every morning during the working season and see what the weather predictions are on the bulletin boards. A great many instances might be cited where a farmer has saved his crop by the predictions.

There are a great many other agencies that are working in the interest of the farmer. The Farmer's Institute is becoming a great work. The state boards of agriculture, and the agricultural college and experiment stations are all working earnestly for the promotion of the agricultural interests. We have been making most wonderful progress in recent years. I remember when we first started these Institutes the farmers were almost afraid to come up, afraid they would be humbugged. But all that has changed. The farmers now come and interchange ideas, and learn something that will help them in their work on the farm. We need a great deal of that. There are many things that can be done for the farmer by legislation, by the National Congress, or state legislature, by the department of agriculture, and by the state board and the Institutes, certain lines of work that can be done for the farm that will help the farmer. But the farmer must also help himself, for if he will not help himself he will not succeed. He will not make much progress. What we need today is a shaking up among the farmers themselves. They must learn how to use their power to protect their interests. I am not one of those people that take delight in going around the country, protesting against other industries, men engaged in other business. They are simply looking after their interests. They do not wish to hurt the farmer, but they are trying to help themselves, and promote their interests, and if in their efforts to help themselves to promote their own interests, your interests are not looked after properly, then you may have reason to speak. I have one suggestion to leave with you, I would like to impress upon you this idea of helping yourselves. Why; you talk about the power of these great trusts, about the money power, and the corporations, and all that, the politicians say a great deal about them, and these associations do represent power. They are powerful, and why are they powerful? It is because they are organized. It is because they have every element of power. I want to say to you that there is not a trust in this country that could oppress the agriculturist for 30 days if they were united. Just think of it. What do these little organizations amount to if they are once brought face to face with such a mighty army as can be organized among the tillers of the soil. There is power, a slumbering giant, that once aroused will be able to cope with any combined powers that exist today, or may be organized in this country of ours.

I have been for years connected with farmers' organizations. The best years of my life have been devoted to this work. It has seemed to me that the necessity for it was great, that every farmer must appreciate this necessity, and I hope to see this organization so thorough and complete, and so well drilled, as to keep step to the music of reform. It rests with the farmer to decide whether it shall or not. Nobody else will do it for you. You may pray from now till the end of time to an overruling providence to interfere in your behalf, and he will not do it. If this work is to be done you must do it yourselves. The Lord Almighty is not doing your work, or my work. The Lord

comes in after we have done our work. He sends the sunshine and the rain in season. I am not so much worried about some of these other people, but I am sometimes worried and discouraged because the farmers are so slow to help themselves. I spent four years in the war, in the army, and went into it from the farm, a farmer's boy, awkward and uncouth, without drill or discipline, knowing nothing of war or its methods. I met in those great encampments ten and twenty and fifty thousand men just like myself—from the farm and the work shop. Did they represent power? No, they were only dangerous to themselves. They could not move as a body without endangering life and limb, because they were not organized, they were not drilled or disciplined. But the time came when the situation changed. We had our little awkward squad, where the boys would drill, and they were taught how to keep step, to wheel to the left and right, and all the different evolutions that are necessary in the army, and the time came later on when those awkward squads were not awkward, when those men, although fewer in number, with depleted ranks, could march where they were needed, stopping at no opposition. And I tell you, my brother farmers, that we represent a great power. And if you ever secure your rights, you must organize your forces and make your power available for that purpose. These people, by combining and organizing and uniting, have vastly increased their power and are not going to stop their work because you and I grumble and growl and threaten. Not at all. We must go to work—organize our forces, study these questions with great care, because ignorant men can not be trusted to deal with important matters. We have got to discuss them carefully. We have got to ascertain what is right, and when we have found what is right we must lay our plans to secure it, and then stand shoulder to shoulder until we do secure it.

Now, you say the work is slow. You are discouraged. The farmers won't get together, and won't stand together, and hang together, as they say. If they do not they will hang separately. You are all citizens of the United States, and equal to any man in the United States, from the President down. You must use your powers. The first thing is to get your army drilled and disciplined, and ready, and then leave time to decide upon just what you will want first. I am not urging you to organize into a political party, because there would not be enough of us to out vote all others, and the other fellows are not going to let us run the government in that way. The farmers must learn how to use their political power to promote the interests of agriculture, and the interest of reform, and the work will be accomplished almost. We have been too modest. Modesty is all right and a good thing. I remember I used to suffer a great deal from modesty. Some of you laugh and don't believe it, but it is so. No man who ever grew to be six feet and three or four inches high when he was 15 years old could help being bashful and awkward. I don't want the farmers to ask for anything that is unreasonable. But demand what belongs to you. We have got to get over being too modest. I hope you farmers here will realize that you have lost something by not co-operating, working together, and coming together. I hope you will listen to some of these suggestions. I hope to hear of more thorough organization among the farmers of this great State.

AFTERNOON SESSION, FEBRUARY 22.

President G. A. Willmarth in the chair.

Song by quartette.

Secretary Hostetter announced that he was in receipt of a telegram from Senator Bogardus, stating that he could not be with us and expressing his regret. That he had also received a telegram from Mr. George McKerron, Superintendent of the Farmers' Institutes in Wisconsin, extending to all an invitation to be present on the 13th, 14th and 15th of March, at the State Institute at Delavan, Wis.

Mr. A. L. Klank, Industrial Agent, Eastern Illinois Railway, was then introduced, to speak on the question of transportation.

Mr. Klank:—Mr. President, Ladies and Gentlemen: A short time ago I received the following telegram: "Chicago, Ill., February 21. To A. L. Klank, Mt. Vernon, Ill. Please say to Mr. Willmarth that I have been called to New York and will not be able to be at Mt. Vernon, which I greatly regret. If you can fill in the time acceptably, wish you would do so. Signed, M. J. Carpenter." It is not necessary for me to say that I could not fill in acceptably the time allotted to Mr. Carpenter. I do wish to say, however, that I know from several conversations with President Carpenter, relative to this meeting, that he has looked forward to it with pleasure, and when he uses the words, "Will not be able to be at Mt. Vernon, which I greatly regret," they convey to you briefly and sincerely his feelings at his inability to be present to fill his part on the program. The subject assigned to Mr. Carpenter, "The Value of Farm Crops as Affected by Transportation Facilities," is one that should have considerable preparation. It covers a wide field; for this I have not had the time; a few thoughts have come to my mind and I will give them to you briefly.

Altitude or latitude cut but little figure in this case; the tiller of the soil from northern, central and southern Illinois is equally interested in this subject. You have been told that economy in production, quality of the products are the two essential points necessary for the successful farming, papers covering the various methods of propagation and production, prepared by men of experience and practice, have been delivered before this Institute. You have been told of farmers' clubs and fruit growers' associations. Personally, I think every farmers' club should be broad enough to be a fruit growers' association, and no fruit growers' association so narrow as not to include farm topics. Coöperation is a cheap commodity, at the same time a very profitable one. Do not be afraid of getting too much of it. What is covered by transportation facilities? The farmer of this section are enabled by a fast freight service to load his strawberries at four o'clock in the afternoon, these same berries arriving in Chicago at 4:40 the following morning. These berries that you gather today can be served for breakfast in houses more than 800 miles away. Mind you, I am not speaking now of express service, but of freight trains. Throughout the summer months the farmer living tributary to the lines running from southern Illinois to Chicago has a similar train service for his perishable products. Illustrating the cost of this service, vegetables of all kinds, in car lots, cost less than 13 cents per hundred weight, less than 3 cents for the so-called $\frac{1}{2}$ bushel. Strawberries, which sell from \$1 to \$4 per case, cost but 14 cents. Special fast freight trains enable the producer or dealer in cattle, sheep, hogs, dairy products or poultry, to send these products broadcast over the land, the cost of transportation as compared with a half century ago being almost nothing, while the manner of handling and distribution of these products has improved from year to year. There is one item in relation to transportation facilities that is, I think, overlooked by many of the producing classes. As an illustration take the farmer of Central Illinois. He has in his crib two, five, ten, or twenty thousand bushels of corn. Today the market may be favorable, he can sell at 40 cents per bushel, five days' delivery. That good old black soil, so dear to the hearts of all central Illinois farmers, has been mixed with moisture and stirred to such an extent that it is forty feet deep in the middle of the road and no bottom on the sides. Is not this man at the mercy of inadequate transportation facilities at his very door? The market drops. The loss on the product of his land for one year will build a half mile of gravel or macadam road. It is said that it costs as much to transport your farm products from the farm to the railroad station as it does from there to the market or seaboard. My friends, you may not see it, but you are paying for gravel or macadam roads every year. Let us turn to the farmer of southern Illinois. We will say that 50 farmers living in a given direction from Mt. Vernon have each three acres of strawberries. When this commodity is put on the market the roads are generally in passable condition; however, those of you who

have occasion to use them know that they are not very smooth, and the ups and downs in a drive of six miles take up considerable valuable time, to say nothing of damage to fruit. I dare say that damage and loss of time as compared with smooth macadam or gravel road will amount to 15 cents per case; 150 acres, 100 crates to the acre, a very moderate estimate, 1,500 cases; loss of 15 cents per case would be \$2,250. Just think of the loss on the product of less than a quarter section of land sufficient to almost build a half a mile of macadam or gravel road.

I can not help but think that this subject is near and dear to the heart of every farmer present, not only that it should interest the townsman, the merchant as well. Build a gravel or macadam road for say three miles in any given direction from your town or your city, and you will extend the business relations of that town or city for three miles. In making this statement I have often met with this response, "They will only come to us when the roads are bad." My friends, if you live up to that golden rule in your business life that Brother Wallace told us about last night, they will come to you twelve months in the year, if you get them started your way when the roads are bad in other directions. I am not prepared to go into details on this subject; I am unable to give you figures as to the cost of gravel or macadam roads. My sole aim is to put this matter before you for such discussion and consideration as you see fit. I am confident that good roads are not only possible and practical, but that many of us will live to see the day when the iron horse on rubber tires will be able to travel from Chicago to Cairo in winter as well as summer.

The discussion following Mr. Stanton's article, on shipping of fruits, suggests to my mind some things of special interest to the small farmer of southern Illinois. The big farmer, you know, is in pretty good shape to take care of himself, yet he cheerfully, at considerable inconvenience, comes to these meetings, and gives you the benefit of his experience. It is the small farmer that is particularly interested in transportation facilities; he should be most interested in Farmers' Institutes, farmers' clubs, and fruit growers' associations. Charity begins at home. Tell your neighbors about this grand meeting; organize a farmers' club or a fruit growers' association; talk over with your neighbors the matter of your farming operations for the coming year; when you find out what product you will have to put on the market tell the agent of your railroad about it. If he is not broad enough to help you out, write to the general freight agent. He will not only furnish you with transportation facilities, but will find you a market. This refers particularly to the fruit and truck farmer of southern Illinois. Bear in mind one thing, don't attempt to grow a perishable crop unless you are located on a line of railroad that can give you an outlet for it, no matter how suitable your land may be for it.

President Willmarth stated that the committee on resolutions asked for a little more time in which to complete their report and that in the mean time we would have some informal talks. He invited Mr. Wallace, editor of Wallace's Farmer, Representative Abbott of Whiteside county, Dr. Morris of Olney, F. M. Higgins, Ottawa, and Director L. N. Beal to the platform, who, after music by the Clover Leaf Quartette, spoke as follows:

Representative Abbott of Whiteside county:—The subject which is dearest to me today is the subject which has been repeatedly touched upon by the speakers who have been before me at this Institute, and is the subject of doing something in the country schools in the shape of agricultural education. It is a subject which interests me very deeply. There is something wrong with the farmers of Illinois, something wrong in the State of Denmark. In that part of the State in which I live, the northwest corner, the early settlers are either dead or have gone to town. Are their farms tilled by their children? No, they are not. Four-fifths of the farms in the vicinity in which I live are tilled by tenant farmers, and only those of you who have had experience along that line have any conception what that means to the soil. It seems to me that

we teach everything else in the county schools but the essential and important duties connected with farm life. We teach a child how they would sail by water through St. Petersburg to Sanbar; we teach the child the difference between English and French, but we neglect the flower that blooms by the pathway. We teach him to extract the square root of a long, useless or meaningless number, but fail to teach him the life history of the insect which destroys the fruit or how its ravages may best be combated. It seems that for ten or fifteen years we lead the children through a wilderness of knowledge, and when at last as young men and women they arrive at man's and woman's estate, and we bring them in sight of this goodly heritage which is theirs, they are in total darkness as to the management of this goodly heritage. Now, this a subject which I would rather have the expressions of other people than to tell you my opinions. I am admonished that the time is short, and they will present here to you a resolution which looks for the adoption of such system in the public schools, and when the time arrives I wish to have an expression then as to what you propose to do about it.

Dr. Morris, of Olney:—I want to emphasize a little what Mr. Wallace talked to you about. I want to say that Mr. Wallace and myself can not tell you in five minutes the reasons on that subject. It means to fill the Lord's earth with sunshine. Prof. Holden made a statement at Springfield that over every acre of land there was in the atmosphere, if it could be reduced to a commercial basis, if it could be reduced to nitrogen in solid, \$11,000,000. Just think of that for a minute, eleven millions of dollars worth of nitrogen over every acre of ground you are in control of today. You can use all of that eleven million dollars worth of nitrogen, if you will bring out the condition necessary to bring it from a gas to a solid in the atmosphere. Wallace told you how you could use the clover plant. There is not a foot in (southern Illinois that you can not raise some leguminous plant on, and your soil, climate and conditions are particularly favorable to the growth of the cow pea and soja bean. The soja bean and cow pea represent sunshine. They are concentrated sunshine, and in that sunshine is everything in the world to make rich soil. All you have got to do is to prepare the ground and plant the seed, and through these leaves that are opening the sun fills them full of vitality, full of nitrogen, carbon, everything that you need in the soil. If you will only put the seed in the ground as Brother Wallace told you to this morning the good Lord will do the rest. They are mortgage lifters, and everything that you want that will strengthen your soil and fill it full of God's sunshine and blessings, and God's truth. I wish you could realize the multitudes and myriads of unaccountable numbers of the things in your soil that you can not see with the naked eye. It is a wiggling mass of organized life. It has been found that an acre of cow peas will put thirty odd dollars worth of fertilizing matter in the soil. You have got to do your part of it, plant the seed and the Lord will make the crops grow.

Mr. Higgins, Ottawa:—I just want to say a word to emphasize some of the work that has been done down here in the excellent program I have listened to during this Institute. I must say that I felt very much honored by the reception and entertainment that I have received at Mt. Vernon, and I take this opportunity of thanking the people of this community for their kindnesses. But a word in regard to the work of the Farmer's Institute. There has been so many good things said, so many things that are of real worth, that you should take home with you, that I just want to say a word that will cause you to think of these things and bring them to your mind, and get them so fastened in your memories that you won't forget them, and talk about them. It is not so long ago since the work of the Farmers' Institute was looked upon with a good deal of suspicion by the average farmer. It is not so long ago since when the Farmers' Institute held meetings in many localities, it was greeted with a sort of a smile, the people who were working along the lines were looked upon as visionary, and the result was that the beginning, the starting of this has been exceedingly tedious and filled with hard work from the men who have had charge of it. I want to say to the men to whom the honor, really, of the Farmer's Institute is due, I think the State of Illinois has reason to be proud, that every farmer in the State, and every citizen, has reason to be proud of the men who have been pushing the work of the Farmers' Institute during the past five or ten years. I believe that to

their integrity and honesty of purpose, to their unselfishness and disinterested industry is due in a great measure all the success with which this Institute has met, and all of the things that have been told to you here, all of the things that are being told to you, to the farmers all over this great State of Illinois, will be futile unless the farmers themselves take hold and work in coöperation. As I have said, the work of the Institute, the beginning of the Institute, has caused a great deal of labor. It has now reached, and is now going forward on the smooth road to honor, to integrity and to usefulness. If the Board of the present time are kept in charge of the affairs of this Institute, then it will be guided in the interests of agriculture, absolutely free from any differences, jealousies and politics. I want to see the Farmers' Institute built upon such lines, and I believe absolutely we are safe in saying it will be built upon such lines. And anyone who would have the temerity to desire to work it into politics or political purposes should be killed so dead that his name would never be heard of again. We have such a class of men today in charge of the Farmer's Institute of Illinois, and that is one of the things that makes me feel there is a grand future for the Illinois farmer. You have been told in the excellent papers and speeches made here of the grand work of home building. You have been told of the grand work and influence of the school and church, of the grand work of the Institute, and all through the line there is a thread of relationship, which unless always kept intact and always working along the same lines, success can not be attained by any of these institutions. I would like to see the schools, the country schools in every district an experiment station. I would like to see the farmers in every district work in harmony with the teachers and county superintendents. And let me say now, that all over this great state of Illinois, wherever Farmer's Institutes have been held, the work is beginning to spread out, and in LaSalle County the county superintendent has already started the work. It is preparing for them the work that will fit their boys and girls to assume the reins of responsibility when the time shall come for them to accept it. Teach them the habits of the animals; they know it is natural history, the knowledge of plants, which is botany. Don't wait until they go into the high school to study the sciences, because it is a fact that many of the boys and girls of the farm, when they open the books discover that many of the facts—it opens out to them as a revelation. The Farmer's Institute is doing this. Bring the child up in touch with nature. Teach him in the home. Don't wait till the Fourth of July to teach him patriotism; teach him in the home. Don't wait till Sunday to teach him morality, and don't wait till he gets to high school to get an education. The work that is done is education. From the time the child is old enough to understand education begins. Make it practicable work, and with the assistance of the men now in charge of the Institute of Illinois, we will have one of the grandest states in this Union.

Mr. Wallace:—"Agriculture is the most healthful, most useful, most noble employment of man." Who said that? Gentlemen, the father of his country, whose name is celebrated to-day, George Washington. I do think that if the spirits of the departed are permitted to visit this earth, and George Washington and Martha are permitted to look down upon this institution today, that George would say, "Martha, we have not lived in vain." You don't need to go far to prove that. Look around here at these old fellows. Just look at that. Long ago they would have expected us to die. Moses said that three score and ten years filled up our days, and here are a lot of old fellows that will never see it again. Look at these old ladies. I use the term in highest respect. Agriculture is the most healthful. Take the Blue Grass Girls down in Kentucky. Agriculture is the most healthful, most useful, as the preachers would say, certainly most useful. Bless my soul, what would the world do if it wasn't for the farmers? Why, we feed them. Just now the farmer is expanding. He is a free buyer. His prices are going to go higher. He looks out into the world in the most cheerful, optimistic way. But when speculation runs wild, the farmer will say, "I think we had better restrict ourselves." And he will talk it over with his good wife, and with his sons and daughters; they will hold a council of war—a committee on safety—and he will say, "I guess I can get along with this old overcoat another year,

and can't we get along without a new carpet, and Jenny, can't you do without that piano?" and by and by he quits buying, and then all act at once. It seems as if something was in the air, and the retail merchant quits retailing, and when the drummer comes around he gets nothing. And when he goes back to the jobber, the jobber will think he is going, and the factory stops and we get hard times. Agriculture is the most useful employment of man. It is considered with all the rest, but you let the farmer take a fit of economy, and a shiver goes through every bank in the United States, and the Bank of England, itself. The most noble employment of man. The great trouble with the farmers of the world, in this country, at least, they don't know how noble an employment their's is. I thought I would just comment on that sentence, that has been wisely put on there, on the wall, "Agriculture is the most healthful, most useful, most noble employment of man."

The best way to start an Institute is to tell your neighbors who were not here what they missed. Talk to them, not in a doubting, hesitating way, but talk about it in all the earnestness you can, like you talk to your girl when you propose to her. Talk it to everybody. Just tell them they have missed the opportunity of their lives, and be careful not to miss it next time. You have wonderful work to do in this State, and you are doing it nobly. It seems to me that a certain kind of men come like broods of chickens—in crops. A crop of men whose minds run in certain directions. There was the same kind of men in Iowa twenty years ago, and the man that was in it first was Father Clarkson. He was the father of us all, and Secretary Wilson, Jim Wilson, and L. S. Coffin. They set the movement on foot that has put Iowa where it is—away up in front of the states. We did not know what good the women were doing at that time. Their work will tell, and if the men connected with this Institute will join in and help them they will succeed.

This is the finest Institute I have ever seen. The Iowa, Wisconsin, Nebraska and Missouri states seem to go upon the system that the farmers are to be brought up to them and informed. The general committee takes the initiative and has the meetings organized, names the speakers, and the farmer comes to it in no receptive mood. It is the difference of drenching the calf and allowing him to suck. The milk don't do the calf half as much good if you pour it out to him and try to teach him how to look down instead of up to its food. In Iowa we have no organization, but every county goes, and it is very difficult and expensive to get speakers for that reason. Get the people to come to the Institutes. They will see that you are not after any money, and simply trying to do some good for them. Keep up the system you have. The farm is the workshop and the farmer the operative, and food for the hungry the grand result. Beef that is fit to be laid before the palates of princes; mutton that makes you wish your neck was a yard long; butter; horses that spin at a 2:40 gait; wool fit for clothing Queen Victoria; butter fit for kings. The man who is capable of breeding improved breeds of stock is a sculptor or an artist in one sense. There can not be a nobler employment. I go home with the pleasantest recollections of this part of the State. I had not known what kind of thinkers you were. Oh Lord, have compassion upon thy humble fellow servant, and teach him how to behave himself, for he has never been in such good company before.

Mr. L. N. Beal:—Mr. President, Ladies and Gentlemen—At the closing session of the State Institute we can congratulate ourselves at the success of the meeting, notwithstanding the gloomy weather most of the time during the week. The sky is clearing, and even now the sun is shining and its rays are lighting up this room. The sun is shedding its rays of light on our closing session to encourage us in our effort of trying to shed light and knowledge among the farmers of our State. We ought to be and are encouraged after each meeting of the State Institute.

This meeting in southern Illinois will be of great benefit, not because we needed it more than other places in the State, for I can assure you we have as good and intelligent farmers as can be found any where. Our soil—well it is different from the soil in the corn growing belt, but it is all right—climate is unsurpassed by any other portion of the State. Therefore we grow

almost everything in agriculture, horticulture and floriculture. We have a county in Southern Illinois that ships 2,500 car loads of fruit and vegetables to the north part of the State every year—not a small thing by any means. While we are not dependent on you for late roasting ears. Your visit to us will be of mutual benefit. There were ten cities that asked for this meeting, Paris and Rushville being the two strong competitors. But as the former meetings had been at Springfield, Champaign and Princeton, by looking at the map of Illinois you will see Paris is only a short distance southeast of Champaign, and Rushville is also only a short distance northwest of Springfield. These localities had an opportunity to attend those meetings of the State Institute, and the meeting at Princeton gave those of the north an opportunity to get the benefit of that meeting. How could we do otherwise than hold a meeting in the south part of the State when you still look at the map of Illinois and bear in mind where the other meetings had been held. We have had delegates and Institute workers from nearly every county in the south half of the State, and much good will result from having this State meeting at Mt. Vernon.

Mt. Vernon, the name associated with that of the father of our country—Mt. Vernon the home of Washington.

We hope, in fact we know and are sure, your stay here during the State meeting has been of great benefit to us as well as to you. We wanted to meet the Institute workers of the north, and you needed to meet our people. Now we want to go to work with renewed effort to lay plans for the future.

I thank you for coming to this meeting, hope we all have been benefited. And now, even as the sunlight is streaming through the window, shedding light into this room, even so may its light shine along your pathway through life.

Mr. A. P. Grout, in behalf of the committee on resolutions, reported the following:

WHEREAS, The law known as the pure food law enacted by the last General Assembly is one of great importance in preventing the sale of injurious, fraudulent food products, which have heretofore been sold without restriction to the great injury of the health of the people, and the depression of the market for pure and genuine products, and

WHEREAS, The enforcement of this law will materially improve the market for the products of the farm and orchard, therefore, be it

Resolved, That the State Farmer's Institute, in annual convention assembled, do respectfully urge upon the Food Commissioner of the State, the rigid enforcement of the pure food law, believing that such enforcement will be to the advantage of the whole people.

WHEREAS, In 1896 the Legislature passed a bill known as the Warehouse or Elevator Bill, providing that owners of public warehouses for the storage of grain be permitted to buy and sell the same, and

WHEREAS, This law tends to create a monopoly in the buying and selling of grain by giving the public warehouse an undue advantage, thus destroying competition, therefore,

Resolved, That the State Farmers' Institute, in annual convention assembled, demand the repeal of this law at the next session of the General Assembly as being injurious to the best interests of the farmer, and we ask the legislative committee of this Institute to urge its repeal.

Resolved, That it is the expression of the Illinois Farmer's Institute in convention now assembled, that we favor the introduction into the public schools of the State, of studies known as "Nature Studies" as tending toward a higher and better education of our youth; and be it further

Resolved, That we request the board of directors to make it the duty of the legislative committee to urge upon the General Assembly the enactment of such a law.

WHEREAS, The State Experiment Station at Champaign has been doing good work in the investigation of questions concerning the farmer in the carrying on of experiments and publishing of results, and

WHEREAS, These are limited from lack of funds, therefore,

Resolved, That we recommend to the Legislature that it make suitable and adequate provision for the carrying on of necessary experiments, and printing of bulletins for the advancement of agriculture in Illinois.

WHEREAS, The Illinois Farmers' Institute was created by the people of the State to assist and encourage useful education among the farmers, and for developing the agricultural resources of the State, and

WHEREAS, The General Assembly has made ample provision for the general extension of education in all lines of especial value and importance to the farmers of the State through the agent of the College of Agriculture, and

WHEREAS, The agricultural resources of the State can be more rapidly and profitably developed by the cooperation of farmers residing in each county in all lines of intelligent and well directed experiments in the growing of crops and fruits, the breeding of stock, dairy husbandry, etc.; therefore, be it

Resolved, That the Illinois Farmers' Institute in convention assembled recommend and urge the appointment by each County Farmers' Institute in Illinois of a standing committee of not less than five, whose duty it shall be to encourage and assist the farmers in their respective counties to cooperate with the College of Agriculture and experiment station at Champaign in the general extension of agricultural education by greatly enlarging the number of students attending said college; and be it further

Resolved, That said County Institute Committee cooperate with the director of experiment station in such lines of experiments as may be agreed upon and is likely to demonstrate the adaptability of the soil for the profitable production of certain crops, the best varieties of grains, vegetables, fruits, to cultivate in each locality, and the determination of such facts pertaining to the agricultural conditions in each county as will reduce to the minimum the failures of our farmers to obtain profitable results from their efforts.

WHEREAS, The prime object of the Illinois Farmers Institute is to assist and encourage useful education among farmers and

WHEREAS, The major portion of the effort of the State Institute should be in the line of instructing the sons and daughters of the farmers of the State in connection with the meetings of the County and Township Institutes, and

WHEREAS, The cooperation and attendance of the youth of the farm can best be secured for the Institute work by placing additional responsibilities and duties upon said boys and girls; therefore be it

Resolved, That the Illinois Farmer's Institute in annual convention assembled, hereby recommend that the evening session of the Township Institute and the second evening session of the County Institute be set apart for exercises to be arranged for and participated in as far as possible by the sons and daughters of the farmers of the respective Counties and Townships.

Resolved, That a standing Committee of the Illinois Farmer's Institute be appointed to cooperate with similar committees appointed by County Institutes to the end that the youth of the farm may be more generally interested in the Institute work, and that the cause of useful education of especial interest to farmers, may be extended to the classes likely to receive the greatest benefits from the operations of the law creating this organization.

WHEREAS, The Illinois Farmers' Institute, through its board of directors, has awarded scholarships in the College of Agriculture at Urbana to representatives of nearly every county in the State, and

WHEREAS, The recipients of said scholarships receive the benefits and honors resulting therefrom through the operations of the Illinois Farmers' Institute, and

WHEREAS, The students receiving said scholarships can render the Institute workers of the State valuable assistance, and the College of Agriculture much useful service by coöperating with the Illinois Farmers' Institute, therefore, be it

Resolved, That it is the sense of this board that the students receiving such scholarships should read each year a paper at the Institute of the county they respectively represent, and make a written report on the condition and scope of the work of the College of Agriculture at Urbana to the end that a greater interest may be developed in the study of agriculture.

WHEREAS, The fifth annual meeting of the Illinois Farmers' Institute has exceeded the expectations of its promoters in the complete and very satisfactory local arrangements made for the meeting, and,

WHEREAS, The able, interesting and practical addresses and discussions presented to the meeting have added largely to the fund of general information pertaining to farm life, and,

WHEREAS, The large and appreciative attendance at the meeting has demonstrated the deep interest in the Institute work, and gives great encouragement for the enlargement and continuance of the same, therefore be it

Resolved, That the thanks of all in attendance are due and hereby extended to the local committees, the citizens and musicians of Mt. Vernon for the perfect arrangements made for the meeting and the generous hospitality extended to visitors.

Resolved, That the speakers who have contributed to the success of the meeting by the able and interesting addresses are entitled to a full measure of gratitude and our highest esteem.

Resolved, That the large attendance and the many delightful new acquaintances made at this meeting will greatly prolong the pleasant memories of the Mt. Vernon Institute.

Resolved, That the visitors at this Institute join with the residents of Jefferson county and the leading agriculturalists of southern Illinois in sympathy with the family and friends in the recent death of John S. Bogan, of Mt. Vernon, who for many years was the leading promoter of the Jefferson county fair and all other similar organizations having for their objects the advancement of the interests of the farmer.

Resolved, That the unselfish life and the patriotic services in the interest of all engaged in rural pursuits characteristic of the long and useful life of the late John S. Bogan, entitle him to a bright page in the agricultural history of Illinois.

On motion of Col. Chas. F. Mills the resolutions were adopted by a unanimous vote.

After singing "America" and the doxology by the entire audience the fifth annual meeting of the Illinois Farmers' Institute adjourned amid great enthusiasm over the pleasure and success of the meeting.

G. A. WILLMARTH,

A. B. HOSTETTER,

President.

Secretary.

SECOND ANNUAL REPORT OF THE ILLINOIS ASSOCIATION OF DOMESTIC SCIENCE.

The second annual meeting of the Illinois Association of Domestic Science was held at Mt. Vernon, Ill., February 20-21, 1900.

At 9:30 o'clock the meeting was called to order by the president, Mrs. Joseph Carter.

Prayer was offered by Mrs. I. S. Raymond, of Sidney, and followed by a musical selection.

The following address of welcome was delivered by Mrs. L. N. Beal, of Mt. Vernon:

To the Officers, Delegates, and Friends of the Illinois Association of Domestic Science:

I speak today for the women of southern Illinois, and especially for those of Mt. Vernon. I wish to say that we are very glad you have seen fit to hold your second annual meeting in our part of the State. We hope and expect much light to come to us, as well as much joy and pleasure from your acquaintance. We give you a special welcome to Egypt;—

Egypt—not the one far-famed for famine,
Where they stored in barns the corn,
Where King Joseph fed the nations,
Weary, starving, and forlorn.

Years gone by, so runs the story,
When our country all was new,
Wealth developed all around us,
Fortunes came to not a few.

As the tide grew large and larger,
Delving wealth from out the earth,
There was one spot they called Egypt—
Called thus because of dearth.

Time has proved that us Egyptians
God has looked upon and blessed;
And our garden we call Eden—
The fair Eden of the West.

Though great progress we are making,
And are working with a will,
Yet our Northern neighbors call us,
Freely, Egyptians still.

Yes, we long have stood in darkness,
But a light is creeping in;
For brave woman now is helping,
And she is sure to win.

While our men the luscious fruits are shipping,
And turn out the golden grain,
Woman's never, never idle,
She's at work with hand and brain.

While our men the land are tilling,
And turning deep the soil,
In the front rank stand our women,
Not afraid of honest toil.

Wearying never, studying ever,
Planning ceaseless, without rest;
And the handiwork of Egypt
Well compares with all the rest.

Though mere specks upon the surface
Of life's great and boundless sea,
Still our works are surely telling
Of the centuries yet to be.

Today is a day of sadness as well as of joy to the people of Mt. Vernon. Twelve years ago after the last sad rites of burial of the dead killed in the cyclone, they turned to their wrecked and ruined homes, singing.

'Mid pleasures and palaces though we may roam,
Be it ever so humble, there's no place like home.

Home; for I have kept the home for my closing thought. In it lies the most important work in all this widening field of woman's activity. The home circle is the one within which woman does her greatest and grandest and most lasting work. In it she shapes the destiny of the world. In it she moulds the minds that are to direct and control the future. The home circle is the woman's throne.

We celebrate the 12th of February as the birthday of Lincoln, the 15th as the birthday of our own John A. Logan, and the 22nd as the birthday of Washington—the central figures in American history. We mention this fact to emphasize the lessons of home. Washington, especially, acknowledged in the most emphatic manner his indebtedness to his mother for the inculcation of those qualities which made his life so valuable to the nation. With a like thought we may go back in American history to the Colonial days. It has been well observed that while much is said regarding the Puritan fathers, little mention is made of the Puritan mothers. But they deserve no less than their husbands and brothers for the work they did in shaping the foundation of our country. If we have today a nation in which the home idea has its best development, let us not forget, in singing the praises of these forefathers, these faithful women who stood by their sides in building the nation.

I am reminded that you are an association of women gathered here from all parts of our great State, to consider the subject of Housekeeping and Homemaking, to arouse in women a clearer realization of their responsibilities in the home. Is there a question of more importance than the one which you are gathered here to discuss? You realize that it is not a question of *your* home or *my* home, but *the* home. Whether we live or die, and how we live and die, depends largely upon our homes. Let those of us who do realize the importance of the progress and development of the race labor the more persistently, so that in every home in the land may be felt the potent influence of this new light; for surely the light is breaking.

We hope you will carry away with you pleasant memories of Mt. Vernon and its people. And in the years to come, your minds may run back to this meeting and the good it has accomplished.

In response Mrs. Carter expressed the pleasure of the association at being at Mt. Vernon, and thanked the people for their invitation. She said, in part:

We are a young organization but the subject is an old one. It goes back to the time when Sarah prepared the measures of meal for the messengers from God, and when Mary and Martha served in the home of their brother.

It is a beautiful incident in the history of your country that Martha Washington directed the affairs in her own home. It is the old story of caring for home and humanity than which nothing is greater. A great vista of usefulness opens up before us. Fifty counties in the State are organized, but the work is only half done.

We want the way opened to educate our daughters in this subject in the schools—especially the University of Illinois. We need teachers, but there is no place in the State where they are being made except by Mrs. Kedzie at Bradley.

Most reforms come from women, and the women must work for this in their clubs, and do all they can towards a department of domestic science at the University. This organization is a permanent thing, for we are a part of the Illinois Farmers' Institute.

Then followed the reading of the minutes of the Princeton meeting and the report of the secretary for the present year.

SECRETARY'S REPORT.

Since the beginning of the organization of domestic science associations in connection with County Farmers' Institutes of Illinois, there have been constant requests for suggestions of how to go to work to perfect an organization, and for a form of constitution. To answer these requests and that there might be uniformity in the associations as there is in the Farmers' Institutes, the officers of the State association deemed it wise to issue a booklet which should contain plans for organization, a form of constitution, suggested topics for study and lists of books suitable for reference. The Institute management having set aside an amount of money for the use of the association such a thing was possible.

Twelve hundred and fifty of these booklets were issued. Copies were sent to each county in the State and also to all ladies whose names were in possession of the officers as being interested in the subject of domestic science. A notice of this publication was given to a few papers stating that copies could be procured upon request. There have been calls for the booklet from Indiana, New York, Georgia and California. The publication is exhausted, although they have been given out sparingly and many more might have been used to great advantage.

Before the opening of the institute season an open letter was sent to the secretary of each county institute calling attention to the subject of domestic science and the objects of the association. It requested that this subject be given a place on the Institute programs and that where an association had not already been formed one should be organized at the time of the Institute meeting. In addition to this, where the date of an Institute was known, just previous to the meeting a second letter was sent with a blank card for reporting the organization of an association with names of officers, and also copies of the booklet to be given to the ladies who would be interested in forming local clubs.

As a result of these efforts together with those of the ladies who were already interested and active in this matter, fifty-one counties have reported associations organized in connection with the Farmers' Institutes. In some of the counties vice presidents have been appointed in each of the townships of the county, forming in this way many active local clubs. In one club, about which Mrs. King of Bloomington, is to tell us, work is being done in the rural schools.

As has been noticed in the minutes of the Princeton meeting, the wives of the Directors of the State Farmers' Institute were appointed to act as vice presidents for their respective districts. Notice of such appointment was sent to each of these ladies. Some have been active. Many found it impossible to act in such capacity. In some of these cases appointments were made by the Institute Director, while in other districts, there has been no acting vice president.

The following is the report as received from the several districts: For the 13th District, Mrs. King reports three out of six counties organized; viz., Champaign, Douglass and McLean. Efforts have been made to arouse interest in the other counties but with indifferent success.

In the 14th District, Mrs. Wilson writes that all the counties have active granges which are discussing domestic science questions. Two counties of the six, Fulton and Mason, are organized in connection with the Farmers' Institutes.

In the 18th District, Mrs. J. R. Challacombe acted as vice-president in place of Mrs. Burroughs. Here four out of six counties have associations, viz., Bond, Madison, Montgomery and Moultrie.

For the 19th, Mrs. S. Rose Carr was appointed in place of Mrs. Shank. This is the banner district for associations, for all of the nine counties are organized. They are, Clark, Coles, Crawford, Cumberland, Edgar, Effingham, Jasper, Lawrence and Richland.

Next to this stands the 20th District, from which Mrs. Beal reports seven out of ten counties as having organized associations; viz., Clay, Edwards, Franklin, Hamilton, Jefferson, Wabash and Wayne.

From the 21st District, Mr. Kimzey reports five of the seven counties organized. These are Monroe, Perry, Randolph, St. Clair and Washington.

In the 22d District, three counties are reported as organized; viz., Johnson, Massac and Williamson. In the 17th, three counties out of five have associations, Christian, Menard and Sangamon.

From the 16th District, two counties have reported, Cass and Pike. From the 15th, Adams and McDonough; from the 11th, Bureau and LaSalle; from the 10th, Mercer and Stark, from the 9th, Carroll, Stephenson and Winnebago; from the 8th, McHenry and DeKalb and from the 12th, Kankakee and Vermilion.

None of the districts so far as I know elected a vice-president as provided for in the constitution except the 19th. Mrs. S. Rose Carr was elected in this district.

From the appropriation of the last Legislative Assembly to the Illinois Farmers Institute an amount was set aside for the establishing of circulating libraries. The Institute management asked that the officers of the association should name five books upon domestic science topics for each library set.

That these books might be well chosen to meet the desired end, the most of them were as thoroughly reviewed as practicable. For such review many copies were sent gratis direct from the publishers upon request and some of them were quite expensive books.

Aside from the books contained in the library sets, we were allowed to name twenty-five volumes which should be kept to loan to the Domestic Science clubs for study.

The list of these books is published in the announcements sent out with the program of this meeting. It is hoped that this list may be added to from time to time.

At the last meeting of the State Farmers' Institute, a resolution was adopted recognizing the work of this Association and of the county associations as auxiliary to and a part of the Farmers' Institute work of Illinois. Being thus affiliated with an organization already strong in its influence we shall be able to accomplish greater things than if standing alone. The generous financial support consequent upon the adoption of this resolution has enabled the association to carry on the work of the year and to provide for this meeting.

Mr. Hostetter, secretary of the Illinois Farmers' Institute, asked to be allowed to say a few words in behalf of the Institute. He said that the Institute is proud of the affiliation and pledged its moral and financial support. He reported also that the books in the Domestic Science library were all out but three.

Next followed the reports from delegates. There were present about thirty delegates and other counties not represented were reported for by those who had been doing district work. There was marked earnestness and enthusiasm among the delegates. Some reported the associations not large but "make it up in enthusiasm." Nearly all of the clubs were doing earnest, helpful work, and all delegates were eager to discuss plans and methods of work. All counties organized reported Domestic Science sessions held with the Farmers' Institute, and in all counties except two it was said "the men are of great help."

At 11:40 the meeting was adjourned to give the committees opportunity to work.

At 1 o'clock the meeting was again called to order by the president. The reports of delegates was continued.

Mrs. S. Noble King, of McLean county, spoke particularly of the value of the bulletins issued by the U. S. Department of Agriculture in the study of this subject. She spoke also of the food analysis by the Chemical Department of the University of Illinois, especially of the photographs of the analyses made by Dr. Grindley.

The Oread and the American Kitchen Magazine were spoken of also as being helpful. A number of the clubs are subscribing for the Oread.

The value of cooking and sewing in the public schools was plainly brought out, and means of bringing it about were discussed.

Mrs. Dunlap told of a notable incident of good accomplished by this kind of instruction. One boy in the Urbana schools, a ragged, unclean truant who gave the officers and his teachers much trouble, was transformed into a quiet, tidy boy who patched his own clothes by being allowed to learn sewing.

RESOLUTIONS.

The chairman on resolutions, Mrs. S. Noble King, reported the following:

WHEREAS, The General Assembly has made ample and most creditable preparation in the way of buildings, instructors, etc., for the education of the sons of the farmers of the State, at the College of Agriculture at Urbana; and

WHEREAS, It is equally important that the daughters of Illinois should be educated in all that pertains to home making, the most important work of woman; therefore, be it

Resolved, That the Illinois Association of Domestic Science, in annual convention assembled, petition and earnestly request the Board of Trustees of the University of Illinois to make ample provision in connection with the College of Agriculture for a complete course of instruction in lines of study pertaining to domestic science and household economy.

Resolved, That the Board of Trustees of the University of Illinois be and are hereby requested to secure the services of the most competent corps of instructors to be found for the domestic science department of the College of Agriculture.

Resolved, That the Board of Trustees of the University of Illinois be and are hereby requested to grant the same privilege to the daughters of Illinois as is now granted to the sons of the farmers of the State, in the way of free scholarship, and that each County Domestic Science Association be granted the privilege annually of recommending a farmer's daughter for a free scholarship in the School of Domestic Economy to be established.

This resolution was adopted and sent to the Illinois Farmers' Institute then in session, where it was unanimously endorsed, and later transmitted by their secretary to the Board of Trustees of the University.

Later the following resolutions were presented by the committee and unanimously adopted:

WHEREAS, This Association realizes the honor conferred by the invitation to hold its annual meeting at Mt. Vernon, be it

Resolved, That this Association extend its thanks to the citizens for their cordial hospitality; to the teachers and pupils of the high school for their attendance at the domestic science sessions of the Farmers' Institute; to the sweet singers who furnished the music; and for all other courtesies extended to the Association of Domestic Science, and

WHEREAS, We realize the importance of Institute work to the children of the State, be it

Resolved, That this Association request the Farmers' Institute to use their utmost endeavor to secure the attendance of the boys and girls at each County Institute.

WHEREAS, The Illinois Association of Domestic Science has been affiliated with the Illinois Farmers' Institute and has received all its financial aid from that body, be it

Resolved, That the Domestic Science Association extend its thanks to the Farmers' Institute for this hearty coöperation and courtesy.

WHEREAS, The vice-president of the Illinois Association of Domestic Science, Mrs. E. M. Coffman, has met with a bereavement in the loss of her mother, therefore be it

Resolved, That this association hereby extend to her its sympathy, and be it further

Resolved, That the secretary be requested to forward a copy of this resolution to Mrs. Coffman.

Mrs. Kedzie as chairman of the committee on study programs for clubs reported progress, and asked permission for the committee to be continued. Their plan is to make an outline of topics covering a year's work which may be easily followed by clubs desiring such help.

The report was accepted and the committee continued.

The election of officers then took place.

On motion of Mrs. Grundy the secretary was instructed to cast the ballot of the Association retaining Mrs. Carter as president.

The motion was carried unanimously.

Mrs. H. M. Dunlap, of Savoy, was elected vice-president, and on motion Mrs. Emma J. Davenport, of Urbana, was re-elected as secretary.

The regular program of the afternoon was opened by Mrs. S. Noble King of Bloomington with a very interesting and practical talk on Domestic Science in the Rural schools, in which she told of what is being done in the school of her own town.

As the secretary was obliged to leave, Mrs. King was appointed by the president to act as secretary *pro tem*.

Mrs. H. M. Dunlap of Savoy gave a talk on the "Kitchen Club," which brought out many practical questions.

The next on the program was a paper, by Mrs. J. R. Challacombe, of Hillsboro, on Township organization, which was supplemented by an interesting talk on the practical work of organization.

After this Mrs. I. S. Raymond, of Sidney, read a paper, "Convenient Farm Home," followed by a paper by Mrs. G. W. Shippy, Ridott, on the Farmer's Wife and her Table.

Then followed an informal discussion on various topics.

Mrs. Carter especially requested the presidents of County Domestic Science Associations to coöperate with the program committees of their Farmers' Institutes in their programs for the domestic science sessions, and also to promote in every possible way the interests of domestic science.

Adjourned.

EMMA J. DAVENPORT,
Secretary.

THE FARMER'S WIFE AND HER TABLE.

By Mrs. G. W. Shippy, McConnell, Ill.

The time has come when farmers' wives are learning to help themselves. This help-yourself condition is a characteristic of the times. The farmer and his wife are so closely allied in a business line that they must ever work together on the same basis in order to be successful. In the great chain of farm life there is a link that must ever be kept bright by the gentler sex. It is one of the strongest links in the chain, to which the strongest and best men in the business are most closely attached. Do you know what it is? It is the home. Every home has a table in it, whether it stands in its separate department, called the dining room, or whether its place is found in common with the kitchen. From that table the family is supposed to eat the foods that are prepared for the nourishment and growth of the body, both physical and mental. The great question is, "What shall this food consist of?" The answer is, "That which will properly build up the body and mind." In studying the question we find that people differ as widely in their opinions on this subject as in answer to the question, "What is right?" We find that, although there is a general application, every individual housewife must look to and study her own family, for what is proper food for one of a certain temperament, in many cases is not suitable for another. This involves a perplexity wherein experience is the only guide. The average farmer's wife finds too many things wanting her attention to be theorizing. She must have something practical. If you would help her out you can do it only by giving her something that she can put to use, otherwise she is compelled to put it aside. She is ever eagerly ready to receive that which will lessen cost and labor, and it is well for her to reach a point where can be viewed the advance made, the cost counted and a decision rendered, whether what has been gained is equal in value to the effort made. We find recommended by vegetarians a dainty diet for which is claimed all the value of flesh. It can be had from grains, fruits and nuts rightly proportioned. A glass of lemonade with bread and butter. These are combinations that are to take the place of our heavy meals. It is plainly evident that such foods will not very soon be adopted by our farming classes as a body, since the systems of a hard-working farm people look for foods that will yield them the flush of vital force.

What about the meats she is to prepare? Some people declare that pork and lard are unfit for use. Others claim that some of our most to-be-dreaded diseases come directly from the use of beef, or from the products of the cow, to which the most ardent vegetarians do not object. Milk and butter are used so universally in our farm cookery that for a farmer's wife to undertake to cook without them would be to brand her with the title of "poor cook." Be this as it may, it behooves our women to study the best ways and means in the good results they may eventually produce. The wide-awake farmer's wife possesses unlimited ambition and bends every energy to the business of helping to make a living and get ahead. She looks well to the ways of the household. She is working up on all questions and reforms of the day. The point of great value in this household work, in order to be effectual, must be suited to the great masses, the people of moderate means and simple and healthy tastes. She can't be catering to people of fads and affectations who can not enjoy even a dish unless it has a French name. Plain United States language and material are what she wants. She wants really serviceable and reliable foods. She wants valuable helps in the household. She wants something that will help her in rearing her family properly. And since the children are supposed to get all nourishment to sustain life and growth from the foods she places upon her table, she wants to learn the best ways of preparing them. We all, who have boys, know how very hungry they are when they come to the table. They must have something to satisfy that hunger that will at the same time help them to grow into strong, robust, thinging men. In all nature, whether in the animal or vegetable kingdom, there are certain laws which, if broken or unheeded, retard growth. Plain, wholesome foods properly cooked are necessary for proper development. But what is proper food? She is told that it is not safe to use pig's flesh. Paul says "milk for babes and meat for strong men."

Vegetarians say, "Thou shalt eat no meat." A teacher tells her: "I have had pupils in my school whose parents would not allow meats on the table, and know it to be true that such children were stunted physically and mentally." With this conflicting evidence before her, it is plainly evident that there should be a strong determination to find out the best, and work as far as it is consistent with good sense and circumstances. It is only when we begin to study, that we find out how little we know. When we make the table a study we may learn very many ways of cooking palatable and nourishing dishes which may be enjoyed by the family with good results; also many pretty ways of serving that will stimulate the appetite. A woman can nowhere show her good taste in such an appreciable manner as in the way she prepares and serves the foods she places upon her table. Surely we can decide upon her prudence and economy if she keeps within her means. She shows her neatness if the damask be neat, clean and in good repair, and if the dishes be correspondingly attractive. All over the wide world food is found a necessity to sustain life, and it has always been so. Our foremothers each handed down to us her system of cookery. But today we are threatened with a general uprising in the simplification of the art and the necessity for better utensils with which to work. This being the case, it behooves our women to acquaint themselves with these conditions and keep pace with the live world. It becomes us, as farmers' wives, to improve our intellect, for this invariably enables us to better perform our home duties. The word intelligence is defined as the act of knowing, and the power to advance to an intellectual state, to receive and retain knowledge, and to be capable of discriminating by comparison, through the exercise of our senses, the good and helpful from the false and hurtful. We well know that almost every day something turns up to be decided upon. No less so in the preparation of our meals than in other household matters. The most potentially essential thing for us to do is to come together in a spirit of sisterly feeling, into a solid phalanx of cooperating entities, having pluck and sense enough in the organization to provide for the physical and moral needs of ourselves and families. We need to adopt some resolutions of principles along economic lines demanding progress and reform suitable for the masses. It is certain that this is what must be done to fully learn the wants of the woman in farm life. It is the only way to reach her. The wide-awake farm woman is the most independent cook in the land. Her larder is well filled with the products of the garden, the truck patch, the orchard, the poultry yard, etc., etc. Her table is well set with a variety of foods, such as she generally has on hand. It is not the woman who manages to have plenty on hand who works the harder, but the one who knows not what to procure for the next meal. It is the worry connected with the situation that tires her. The one who provides takes her surplus products to the village store where she exchanges them for sugars, coffees, sodas, calicos, gingham, etc., that she finds necessary to complete the circle in the kitchen. Her canned goods and well preserved meats furnish her a ready supply by which she cooks with ease. Of course she worked when fruit was in season to preserve it for future use. But it was only for a comparative few days. Would any one say that her canned fruits and vegetables were not wholesome food? Certainly there is no good reason why they should not be, because they are put up purely in air-tight glass jars, and the woman who has a plenty may consider herself blessed. The great majority of us have very little but what we work for. You can find more discontent garnered up in one idle life than in a score of active ones. The woman who is always at a loss what to cook, in emergency cases, has herself to blame, unless she is not her own master, when she is to be pitied. So long as the active farm woman is not given something better, she will prefer to go on in her independent way, and you may talk to her until your tongue is tired of the disadvantages of farm isolation and she will laugh at you. She can make good bread and butter and she will tell you that she knows which side of her bread is buttered. The sensible farm woman is as willing to learn as such of any other occupation. But she has no time to waste, consequently she looks for something practical. A good cook is such by experience and that only, and she is proud of her well prepared table. A good home with a





A TYPICAL NORTHERN ILLINOIS FARM HOUSE AND STOCK BARN.

The Property of JOHN MORRIS, Rock Creek Township, Carroll Co.

Postoffice, Lanark, Ill.

correspondingly well set table is the height of civilization. Law may and does restrict crime, intemperance and social evils, but proper home conditions will cure the evil when once they are rightly understood.

CONVENIENT FARM HOMES.

By Mrs. Isaac Raymond, Philo, Ill.

When I was a little girl the little hills seemed very steep, and a mile was a long, long distance. After my father had taken his family to the county fair or a mass meeting, and as we were driving home at nightfall making one of the many weary loads of the long procession along the dusty road, we could see over the Illinois prairies so many houses, it seemed to me, and everybody going on and on until he came to the one that belonged to him. I used to wonder some times that people never got lost, or claimed somebody's house that was better than theirs.

The love of home is a natural instinct. In my child's mind no home could be better than the one my father's industry had provided, and my mother's brave cheerfulness made bright for us all. This is the essential thing about a home, that the children shall feel that it is the best and safest place on earth. If a farmer doesn't have a pleasant home he doesn't have much. He may have a large bank account and many cattle and horses, but this is nothing if his home be a cheerless and uncomfortable one.

I know little of architecture, and less about purchasing or quality of materials, so can only give you the best I know in a plain way of what I have learned from observation and experience and the experience of those about me.

I want to say in the first place that the comfort and convenience of a house does not always depend on the size of it. I once had a neighbor, a man of wealth, who built himself a large mansion on a "hill that was beautiful for situation." The rooms were large, but he did not believe in "Yankee notions," so there were neither closets nor cupboards.

In the bed rooms he had rows of hooks for clothing as did our forefathers in their log cabins. The kitchen was "large enough to eat in," and there was plenty of room so the hired men could sit around evenings and rainy days while the housekeeper worked. The well was at some distance from the house and a cistern was a "Yankee notion," as well as the closets. Do you think that housekeeper had an easy time? She had less chance to make her work easy than in a smaller house.

Another neighbor, a thrifty young man paying for a little farm, fixed up a tiny house so that it was a real home. The house had three rooms and a cellar. All was newly plastered and painted, and the cellar cleaned and made wholesome. How he wished that he could afford to build a dining room and another bedroom. He could not do this, but from one end of the porch opening into the kitchen he built a famous large pantry. In that pantry his wife had her work table and flour barrel and all of her cooking utensils. She was an excellent manager and it was always a pleasure to see her work. In no house with all the modern conveniences could a wholesome meal be gotten up more deftly or skillfully, and it was a joy to sit down and eat in the immaculate kitchen. There was no closet in the bedroom, but a wide shelf was put up on which the extra bedding could be placed and under that a row of wardrobe hooks for clothing. This, when covered with a curtain, made a very comfortable substitute for a wardrobe and linen closet.

Thus you see the convenient home must be in the thought and work of the man first, but it is not complete without the aid and assistance and contented spirit of his wife.

"The house should be the best and utmost expression of the home spirit, the best adaptation of means to ends, the utmost convenience and comfort for all under its roof."

Mrs. Ellen H. Richards, professor of chemistry in the Boston Institute of Technology, has written one of the shortest, most compact and practical manuals—Home Sanitation. It covers the ground for both city and country as to the situation of the house, its drainage and plumbing, its ventilation, heating and lighting.

Let us build our house on the farm on a rise of ground, if possible. Give the living rooms the sunny side of the house, putting store rooms and spare rooms on the north side. But do not build any rooms that are to be kept shut up to grow stale and musty from disuse, as we are told some of the best rooms were in old New England.

Build the foundation of the house from sixteen inches to two feet above the ground. The house will look better, the floors will be drier and the house much more easily kept in a healthful condition, than when built too close to the ground. Of course, the space, when there is no cellar, should be well ventilated through the foundation walls. The greatest objection I find to many well-built farm homes is the "nice big kitchen." When the kitchen is so large, it usually serves also for a dining room. It also serves the purpose of store room and ward-robe. The house mother travels many weary miles a day, doing the necessary cooking and cleaning, setting and clearing away the table, etc., and it takes much strength to keep the floor of so large a room in order. The hurry and worry of getting up a meal is much less if the dining-room is a separate apartment. The table can be set before the cooking of a meal begins and much confusion and weariness are thus prevented.

With the small kitchen it is necessary to have a kitchen pantry, a room for a refrigerator and water tank if you can afford them, and somewhere near the kitchen, a closet or large wardrobe for the old coats and wraps, the felt and rubber boots and overshoes so necessary on the farm, but so unsightly and such a trouble to the housewife if they must be kept continually in the kitchen. These things must be warm and dry and an outside closet on a cold porch is not the place in which to keep them.

Many times on a farm a lack of convenience in reaching sitting room and parlor from the working side of the house leads to their disuse.

If the hall at a country house is at one side of the front the rooms can be thrown together and thus be more cheerful and more easily warmed. Have at least one grate in a house down stairs for it is an excellent ventilator and nothing is more cheerful and healthful than an open fire. As to other methods of heating, all are now tried on the farm, but if many miles from a plumber, it is not best to have too many sets of pipes in the house to be looked after.

In my own home, our house is heated with hot air. We have used an Akron air blast furnace eight years with perfect satisfaction. We use a good deal of wood with soft coal for fuel. The combustion of this furnace is nearly perfect, the quantity of ashes is surprisingly small in proportion to the fuel consumed, and the furnace is easily regulated.

The drainage and water supply on a farm as elsewhere are very important questions. Where there is a tubular well, a force pump and wind mill or gasoline engine are generally in use. By this means the water can be conducted to the kitchen or rooms adjoining.

Again, I shall have to speak from a personal knowledge of a method of bringing water to the house that has proved entirely satisfactory. In a little room off the kitchen, we have a galvanized iron tank holding 60 gallons. It is encased in a hard wood box with a cover. The tank is elevated about two feet above the floor. In the floor under the faucet is placed an iron sink, from which a drain carries away the waste water. All the water that is pumped by the wind mill passes through this house tank and by a return pipe is conducted to a tank in the pasture, where the cattle and horses have access to it. It is pumped in through an inch pipe and runs out through one and one-fourth inch pipe, thus averting danger of an overflow when the wind-mill is pumping rapidly.

Sometimes a small tank with a faucet is placed over the work table, and one of my neighbors has a tank very near her kitchen stove, out of which she dips water for household use. The water in these last mentioned tanks is

apt to get stale, as there is no pipe for carrying away the water. Another method of getting water into a house from a wind-mill is to simply have a return of the pipe with a faucet attached and any time the wind-mill is pumping, buckets, tubs or a tank may be filled. I am told that this attachment placed on a pipe leading from the well costs only about three dollars. Of course a stationary tank and drain are much more satisfactory. The cost of the one I mentioned was about thirty dollars as prices are now.

Every one who builds a reasonably good house should have one or more cisterns as the soft water is so much better for washing and bathing purposes, for dish washing and keeping the children's faces clean. It is "the trouble" of getting things done more than the expense that causes many well-to-do farmers to do without these things so necessary to the comfort of the household.

No one needs a bath room more or oftener than a farmer, yet how few plan for them when they build a house. The expense is not great for fitting one up and if the house is not warmed by steam or hot air a small oil stove can be used to warm the bath room and keep pipes and pump from freezing in cold weather.

Do not build a city house in the country. Have a bed room down stairs for the mother instead of giving the extra room to a reception hall. Do not plan your doors and windows without giving due thought to a place for the different pieces of furniture. I heard a young woman say, "I have so many double doors in my new house there isn't a place for a couch anywhere." If you have a bay window do not make it too small; nine feet wide and three feet deep is not too large. Have outside blinds if you can afford them; they keep out much heat and are nice in cold weather.

Don't forget to have a wide comfortable porch where the whole family may assemble in the summer evenings.

Have plenty of closets and a store room, which is so much better than an attic because it will not hold so much. Many are too apt to let old clothes and old furniture accumulate when they might be put to better uses. Have one closet with wide deep shelves on purpose for bedding. Have a medicine case or closet in some handy corner where all sorts of necessary drugs may be kept and easily found when needed for man or beast. Farmers and farmers' wives need to be well equipped for emergencies when they are from two to ten miles from a physician or veterinary surgeon.

If you do not employ a regular architect to furnish a design you will find that you need all possible helps and hints about these little things or you will not take thought about them when you go to plan your house.

The time is past when to live on a farm means the doing without all semblance of luxury and convenience as it did in the primitive days of our civilization. Housekeeping is now a trade or profession. There is enough of drudgery in the routine of daily life in spite of the good management of the active brain and busy hand assisted by all of the useful inventions of the present time. Let us all strive to build at least as "well as we know" and make our homes on the farm not only comfortable in every way but worthy of their environment and pleasing to the eyes of all, for "Here in circling fields of wheat and corn around the home, a nation's strength is born."

**MINUTES OF MEETINGS OF THE BOARD OF DIRECTORS
AND EXECUTIVE COMMITTEE OF THE ILLINOIS
FARMERS' INSTITUTE FROM FEBRUARY
28, 1899, TO FEBRUARY 27, 1900.**

Minutes of meeting of the Board of Directors of the Illinois Farmers' Institute, February 28, 1899.

ROOMS ILLINOIS FARMERS' INSTITUTE,

SPRINGFIELD, February 28, 1899, 3:30 P. M.

The new Board was called to order by President Moore.

Present: Messrs. Beal, Burroughs, Coolidge, Davenport, Dean, Dolton, Dunlap, Fulkerson, Grout, Gurler, Kimzey, King, Lindemann, Mann, Mills, Moore, Shank, Willmarth and Wilson.

The minutes of the convention of delegates representing County Institutes and held at Princeton, February 23, 1899, were read and on motion ordered spread upon the record.

On motion of Mr. Lindemann a committee of three was appointed on credentials, consisting of Messrs. Lindemann, Shank and Kimzey. The Committee on Credentials, after duly examining the certificates of election and accompanying credentials, made the following report which, on motion, was adopted:

We, your committee, to whom was referred credentials of the recently elected directors, do beg leave to report that we have examined the certificates of election and find them correct and that the following have been duly elected directors for the ensuing two years:

Second District, W. R. Goodwin, Jr., Chicago.

Fourth District, Geo. H. Cleveland, Chicago.

Sixth District, William Stewart, Chicago.

Eighth District, C. D. Bartlett, Bartlett.

Tenth District, J. H. Coolidge, Galesburg.

Twelfth District, F. I. Mann, Gilman.

Fourteenth District, Oliver Wilson, Magnolia.

Sixteenth District, A. P. Grout, Winchester.

Eighteenth District, E. W. Burroughs, Edwardsville.

Twentieth District, L. N. Beal, Mt. Vernon.

Twenty-second District. No person elected.

Respectfully submitted,

CHARLES J. LINDEMANN,
D. H. SHANK,
WALTER R. KIMZEY,

Committee.

The next order of business being the election of officers, Mr. Moore asked the privilege of nominating Mr. Willmarth as president and asked that his election be made unanimous. The nomination of Mr. Willmarth was seconded by Messrs. Grout and Beal.

On motion of Mr. Kimzey the secretary was instructed to cast the vote of all present for Mr. Willmarth as president. The secretary cast the vote as instructed and Mr. Willmarth was declared duly elected president for the ensuing year.

Motion of Mr. Wilson adopted that the Board proceed to nominate and elect the remaining officers by ballot.

The informal ballot for vice president resulted as follows: Beal, 8; King, 6; Grout, 1; Dean, 1; Wilson, 1; Kimzey, 1; total, 18. Necessary to a choice, 10.

The first ballot for vice president resulted as follows: Beal, 11; King, 5; Kimzey, 1; Grout, 1; total, 18. Necessary to a choice, 10. Mr. Beal, having received a majority of the vote cast, was declared duly elected vice president for the ensuing year.

On motion of Mr. Dolton the election of Mr. Beal was made unanimous.

The first informal ballot for secretary resulted as follows: Hostetter, 9; Mills, 9; Wilson, 1.

The first ballot for secretary resulted as follows: Hostetter, 10; Mills, 9. Necessary to a choice, 10.

A number of members stated that there was a misunderstanding in reference to the vote, and another ballot was ordered, which resulted as follows: Hostetter, 10; Mills, 8; Wilson, 1. Necessary to choice, 10. Mr. Hostetter having received a majority of the votes cast was declared duly elected. The informal ballot for Superintendent of Institutes resulted as follows: Mills, 7; Hostetter, 5; Davenport, 3; Wilson, 4. Necessary to choice, 10. The first ballot for Superintendent of Institutes resulted as follows: Mills, 9; Hostetter, 7; Wilson, 3; total, 19. Necessary to a choice, 10. The second ballot for Superintendent of Institutes resulted as follows: Mills, 9; Hostetter, 9; Wilson, 1. Necessary to a choice, 10. The third ballot for Superintendent of Institutes resulted as follows: Mills, 8; Hostetter, 10; Wilson, 1; Blank, 1. The members present were then polled and it was found that only 19 were present and the third ballot was declared void. The fourth ballot for Superintendent resulted as follows: Mills, 9; Hostetter, 10. Necessary to a choice, 10. Mr. Hostetter having received a majority of all votes cast was declared duly elected Superintendent for the ensuing year.

The informal ballot for Treasurer resulted as follows: Grout, 18, Wilson, 0.

On motion of Mr. Dolton, Mr. Grout was declared the unanimous choice of the Board for Treasurer and the Secretary was instructed to cast the vote of all present for Mr. Grout for Treasurer, which was done, and he was declared duly elected Treasurer for the ensuing year.

The new officers were then inducted into office and Mr. Willmarth assumed the duties of President and Mr. Hostetter the duties of Secretary.

CHAS. F. MILLS,

Secretary.

AMOS MOORE,

President.

President Willmarth announced that all committees appointed by the previous Board would be continued till he should announce the new committees.

The President appointed Messrs. King, Grout, Moore and Mills as a special Committee on Agricultural College, to be continued during the term of the present Legislature.

Mr. King stated that the bill providing for an Agricultural College was now pending in the Legislature, and urged that each member of the Institute call upon his members of the General Assembly and ask them to support the Agricultural College bill.

Mr. Dunlap suggested that the farmers in the Legislature be impressed with the necessity of the farmers having all that the bill asks for; we should have the whole amount of \$150,000.

On motion the Board adjourned to meet in the Institute room at 7:30 p. m.

INSTITUTE ROOM, 7:30 P. M.

Board met as per adjournment, President Willmarth in the chair.

Roll call showed the following members present: Beal, Burroughs, Coolidge, Davenport, Dolton, Fulkerson, Gurler, Kimzey, King, Lindemann, Mann, Mills, Moore, Shank, Willmarth, Wilson, and Secretary Hostetter.

Director King moved that a committee of three be appointed to confer with the Attorney General and secure his opinion in regard to the manner of election of directors from the congressional districts in Cook county. Motion carried.

The Chair appointed Messrs. King, Dolton and Moore as said committee.

Director Kimzey offered the following resolution:

Resolved, That the sum of \$2,890 be set aside, \$20.00 to go to each of the counties to assist in furnishing speakers from outside of the county, and \$50.00 to be appropriated for each congressional round-up in excess of the \$20.00 for each county, all to be used in securing speakers from outside of the county. One congressional round-up to be held in Cook county and one in Lake county, the above to become operative immediately upon the passage of the appropriation bill by the Legislature.

The yeas and nays being called upon its adoption, the resolution was adopted by the following vote: Yeas—Beal, Burroughs, Coolidge, Davenport, Dolton, Fulkerson, Gurler, Kimzey, King, Lindemann, Mills, Moore, Shank, Willmarth, Wilson. Nays—Mann. Yeas, 15; nays, 1.

Director Mills offered the following resolution and moved its adoption:

Resolved, That the Secretary be authorized to print for each County Institute 1,000 programs, provided, that copy is sent in time to complete the same at least thirty days in advance of the meeting, said programs to contain the announcement of the County Institute on the first page, the program of the meeting on the second and third pages, and the fourth page to contain the list of the Directors of the State Institute, the time and place of the State and Congressional Institutes.

Motion to adopt carried.

Mr. Kimzey suggested that a list of topics and speakers be furnished to the County Institutes by the first of July.

Mr. Dolton stated that he considered six to ten days time in advertising a meeting was more effective in getting an attendance than if extended over a longer time.

Director Beal reported that he had done some work in the 22nd district, and had arranged for an Institute in Pulaski county to be held on the 10th of March, 1899.

Director Kimzey moved that Mr. Beal be appointed to call a delegate meeting in the 22nd district and ask for the nomination of a director from that district. Motion carried.

Director Fulkerson moved that the Executive Committee be authorized to pass upon and approve the Treasurer's bond.

Motion carried.

Director Kimzey moved that the Executive Committee be authorized to allow bills presented by the Illinois Domestic Science Association not to exceed one hundred dollars (\$100) in amount.

Motion carried.

Mr. Periam, a retiring member, being called upon, made some pleasant remarks, thanking the members of the Board for courtesies extended to him while a member of the Board. He said he would remain with the Board in heart and soul in their efforts to promote industrial education and predicted that much could and would be done by continued harmonious effort.

Col. W. H. Fulkerson, in behalf of the State Board of Agriculture, invited the members of the Institute Board to visit and form closer relations with the State Board of Agriculture. He said their work was along the same lines and all could be helped by coöperative effort. Mr. Gurler, in behalf of the State Dairyman's Association, spoke of the good work being done by the Institutes in the interest of dairying and said the dairymen would ever be ready to help the Institutes in their good work.

The Chair announced that existing committees would hold till their successors were appointed. On motion adjourned.

AMOS MOORE,
President.

CHAS. F. MILLS,
Secretary.

**ROOMS OF FARMER'S INSTITUTE,
SPRINGFIELD, ILL., March 1, 1899, 9 A. M.**

The Executive Committee met on call of the chairman.

Present: Directors Willmarth, Dolton, King, Beal and Moore, and Secretary Hostetter.

Director King moved that the Secretary be instructed to have stationery printed for the officers and directors of the Illinois Farmers Institute and forward a supply to each director. Motion carried.

Bills which had been presented were referred to the Executive Committee, who reported on them as follows:

To the Board of Directors of the Illinois Farmers' Institute:

The undersigned members of the Executive Committee, having duly examined the claims of the parties named below, have approved the same, and recommend that warrants in payment of said vouchers be drawn to the order of the respective claimants for the following amounts, viz:

E. W. Burroughs.....	Director's expenses.....	\$9 10
G. A. Willmarth.....	.. ..	2 00
D. H. Shank.....	.. ..	10 97
A. F. Moore.....	.. ..	2 00
Walter R. Kimzey.....	.. ..	89 59
Mr. Mary Turner Carriel.....	State Institute.....	11 30
G. H. Gurler.....	Director's expenses..	18 25
G. A. Willmarth.....	.. ..	16 91
Total.....		\$160 12

Signed by Directors Willmarth, Moore, Dolton, King and Beal.

Director King moved that the typewriter belonging to the Farmers' Institute, now in possession of Ex-President Moore, be shipped to President Willmarth for his use. Motion carried.

Director King moved that the outgoing Secretary and Superintendent be instructed to turn over to Secretary-Elect Hostetter in the Farmers' Institute room, all papers and property in his possession pertaining to those offices belonging to the Farmers' institute. Motion carried.

On motion of Director Moore Committee adjourned to meet on call of the President.

INSTITUTE ROOM, March 1, 2:00 P. M.

The Executive Committee met on call of Chairman Willmarth. Present: Directors Willmarth, Beal, King and Moore. Absent: Director Dolton.

Director King moved that the Secretary be authorized to buy a copying press and outfit, and a metal box with a lock in which to keep important papers. The bids for such supplies to be approved by Chairman Willmarth before purchasing same. Motion carried.

Director King moved that the Secretary be instructed to prepare a letter transmitting the resolution adopted at the State Farmers' Institute at Princeton upon teaching agriculture in our public

schools, to the members of the General Assembly, and that the letter also state that the Executive Committee endorses House Bill No. 277 and Senate Bill No. 165 as covering the purposes of the resolution, such letter to be signed by the President and Secretary of the Farmers' Institute..

Motion carried.

On motion of Director Beal, Committee adjourned to meet on call of the Chairman.

Minutes read and approved March 21, 1899.

G. A. WILLMARTH,

A. B. HOSTETTER,

President.

Secretary.

FARMERS' INSTITUTE ROOM,

TUESDAY, March 21, 1899, 1:30 P. M.

The Executive Committee met pursuant to the call of the President of the Board. Present, Chairman Willmarth, Directors Beal, Dolton, King, Moore, and Secretary Hostetter.

On motion of Mr. Moore the Committee took a recess of thirty minutes to meet with Senate Committee.

2:00 P. M.

Committee again called to order by Chairman Willmarth. Same present as before.

Mr. King moved that the secretary read the minutes of the final meeting of the preceding board, that the same may be approved for the annual report. Motion carried.

The secretary then read the record of the final meeting of the last Board which on motion of Mr. King was approved.

The secretary then read the bond submitted by Treasurer-elect A. P. Grout as follows:

KNOW ALL MEN BY THESE PRESENTS.

That we, Albert P. Grout as principal, and C. H. Condit, William Neat and Jos. V. Carpenter as securities, all of the county of Scott, and State of Illinois, are held and firmly bound unto the Board of Directors of the Illinois Farmers' Institute of the State of Illinois, and their successors in office, in the penal sum of twenty thousand (\$20,000.00) dollars, current money of the United States, to be paid to the said Board of Directors of the Illinois Farmers' Institute of the State of Illinois, or their successors in office, for the payment of which, well and truly to be made, we do bind ourselves and each of us, our heirs, executors and administrators, and each of them, jointly, severally and firmly by these presents.

Signed with our hands and sealed with our seals, this 13th day of March A. D. 1899.

The condition of this obligation is such, That whereas the above bounden Albert P. Grout was, on the 28th day of February, 1899, duly elected treasurer of said Illinois Farmers' Institute in the State of Illinois aforesaid.

Now, therefore, if the said Albert P. Grout shall faithfully discharge the duties of his office, and pay over all moneys that may come to his hands by virtue thereof, and render a just and true account of the same, when thereupon required by the Board of Directors of the Illinois Farmers' Institute aforesaid, and if he shall well and truly perform all and every act and duty enjoined on him by virtue of said office, and by the laws of the State of Illinois, to the best of his skill and abilities, then this obligation to be void, otherwise to remain in full force and virtue.

Sealed and delivered in presence of

ALBERT P. GROUT.	[Seal.]
C. H. CONDIT.	[Seal.]
WILLIAM NEAT.	[Seal.]
JOS. V. CARPENTER.	[Seal.]

Approved this.....day of.....A. D. 1899

STATE OF ILLINOIS, }
County of Scott. } ss.

I, Alonzo Ellis, a notary public in and for said county and State do hereby certify that Albert P. Grout, C. H. Condit, William Neat and Jos. V. Carpenter, who are each personally known to me to be the same persons whose names are subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that they signed, sealed and delivered said instrument as their free and voluntary act, for the uses and purposes therein set forth.

[Seal.]

Given under my hand and notarial seal this 17th day of March, A. D. 1899.

ALONZO ELLIS,
Notary Public.

STATE OF ILLINOIS, }
County of Scott. }

I do solemnly swear that I will support the Constitution of the United States and the Constitution of the State of Illinois, and that I will faithfully discharge the duties of the office of treasurer of the Illinois Farmers' Institute in and for the State of Illinois in said county, according to the best of my ability.

ALBERT P. GROUT.

Taken and subscribed to before me this 17th day of March, 1899.

ALONZO ELLIS,
Notary Public.

Mr. Moore moved that the bond of A. P. Grout as treasurer be accepted. A vote being taken the motion was carried by a unanimous vote. Ayes, Moore, King, Beal, Dolton, Willmarth. Nays, none.

The secretary then read the minutes of the Executive Board meeting of March 1. No corrections being made the chairman announced that the same would stand approved.

Mr. Moore moved that all records of meetings be transcribed into a record book. Motion seconded by Mr. Dolton. Motion carried.

The secretary submitted an inventory of papers and property received from Past-Secretary and Superintendent Charles F. Mills, as follows:

In pursuance with the instructions of the committee, Col. Chas. F. Mills, secretary and superintendent of the Illinois Farmers' Institutes, delivered to me in the Institute room, on Monday, March 6, 1899, by John Underfanger, drayman, the following property of the Farmers' Institute, namely:

Stubs of three order books.
One auditor's account stub book.

One order book.

One record book and packages said to be minutes of meetings.

Two letter copying books numbered 77 and 68.

Six letter file boxes containing letters.

One blank and one opened book of expenditures.

One bundle of county institute paid bills.

Six pads of bill heads.

One roll of blank reports for county institutes.

500 one-cent stamps.

75 one-cent newspaper wrappers. (Printed on.)

60 large two-cent envelopes, stamped.

200 two-cent envelopes, stamped.

Two boxes, 500 each, manila printed envelopes.

One box half tone cuts.

About 6,000 open parliament bulletins.

About 200 unused programs.

One ink pad and rubber stamp.

Reports from the following county institutes:

Bond
Boone
Brown
Bureau
Calhoun
Carroll
Cass
Champaign
Christian
Clark
Clay
Clinton
Coles
Crawford
Cumberland
DeKalb
DeWitt
Douglas
DuPage
Edgar
Edwards
Ethingham
Ford
Franklin
Fulton

Greene
Hamilton
Hancock
Hardin
Henderson
Jackson
Jasper
Jefferson
Jersey
JoDavies
Kane
Kendall
LaSalle
Lawrence
Lee
Livingston
Logan
Macoupin
Madison
Marshall
Massac
Menard
Montgomery
Morgan

Ogle
Perry
Platt
Pike
Pope
Richland
Rock Island
Saline
Sangamon
Schuyler
Scott
Stark
St. Clair
Tazewell
Vermilion
Wabash
Washington
Wayne
White
Will
Williamson
Winnebago
Woodford
Whiteside.

Making a total of reports from seventy-three counties.

Respectfully submitted,

A. B. HOSTETTER,

Secretary.

Mr. King moved that the annual report for 1899 close with the meeting of the board of directors of February 28, 1899. Motion carried.

Mr. Willmarth, chairman of the committee who had charge of State Institute advertising program reported that the committee had been to Chicago and made a settlement with Gaul, Wermich and Seibert of Chicago, who had the contract, and had received from said firm a check for \$50.00 and a note due in sixty days for \$61.33, the same being ten per cent of gross receipts in full settlement secured by the firm for advertising as per contract. Mr. Dolton moved that report be accepted, the funds turned over to the treasurer, A. P. Grout, and the Committee discharged. Motion carried.

Treasurer Grout then gave the following receipt:

SPRINGFIELD, ILL., March 21, 1899.

Received of G. A. Willmarth, President Illinois Farmers' Institute, draft for \$50.00 and note for \$61.33 for publishing catalogue of State Institute at Princeton, February 22, 23 and 24.

(Signed)

A. P. GROUT,
Treasurer.

Mr. Beal moved that the secretary be instructed to ask Professor Roberts of Cornell University and President Draper of the University of Illinois for copies of the papers they were to have read at the State Institute meeting at Princeton, that the same may be submitted for publication in the annual report. Motion carried.

Mr. King moved that the secretary be instructed to read the stenographer's report of the State Institute meeting at Princeton and report upon the same at the next meeting of the Executive Committee. Motion carried.

On motion of Mr. King the committee adjourned till 8:30 Wednesday morning.

Minutes approved, March 22, 1899.

A. B. HOSTETTER,
Secretary.

G. A. WILLMARTH,
President.

INSTITUTE ROOM,

WEDNESDAY, March 22d, 8:30 A. M.

The Executive Committee met as per adjournment. Present, Chairman Willmarth, Directors Beal, Dolton, King, Moore and Secretary Hostetter.

Minutes of previous meeting read and approved. The claim of Secretary Caldwell of Rock Island County Institute for expenses of delegates to the State Institute meeting, with all the correspondence relating thereto, was presented by the secretary.

Mr. Beal moved that as the payment of the expenses of delegates was contrary to the law, the secretary be instructed to inform Secretary Caldwell that for that reason the bills could not be allowed. Motion carried.

Mr. Beal moved that the secretary be instructed to write at once to each director and to the officers of County Farmers' Institutes for papers read at Institutes, that the same may be submitted for publication in the annual report. Motion carried.

Mr. Beal moved that the superintendent be instructed to write to the directors of the Illinois Farmers' Institute to send in a list of not more than ten speakers from their district, who will address County Institutes. Motion carried.

Mr. Moore moved that the proceedings of the Institute parliament be embodied in the annual report as printed in the bulletin from pages 1 to 34 inclusive. Motion carried.

Mr. Beal moved that the forthcoming report of the Illinois Farmers' Institute be embellished by cuts and that the chairman, secretary and one director, appointed by the chairman, shall designate what illustrations shall be inserted. Motion carried.

The chair appointed Dr. S. Noble King such committeeman.

Mr. Moore moved that that the secretary be instructed to solicit the photographs of presidents and secretaries of County Institutes, who are willing to pay for having the cuts made, that they may be inserted in the annual report. Motion carried.

The following bills were then allowed:

To the Board of Directors of the Illinois Farmers' Institute:

The undersigned members of the Executive Committee, having duly examined the claims of the parties named below, have approved the same, and recommend that warrants in payment of said vouchers be drawn to the order of the respective claimants for the following amounts, viz.:

646	To John Underfanger, drayage.....	\$5 28
647	" G. A. Willmarth, ex-director, executive committee.....	18 88
648	" Amos F. Moore, ex-director, executive committee.....	18 04
649	" S. N. King, ex-director, executive committee.....	9 65
650	" S. N. King, ex-director, executive committee.....	3 85
651	" Chas. H. Dolton, ex-director, executive committee.....	10 95
652	" L. N. Beal, ex-director, executive committee.....	9 78
653	" L. N. Beal, director, expenses.....	17 70
654	" G. A. Willmarth, expenses State speaker.....	19 08
Total.....		\$113 21

Approved March 22, 1899.

G. A. WILLMARTH,
L. N. BEAL,
S. NOBLE KING,
CHARLES H. DOLTON,
AMOS F. MOORE.

To the Board of Directors of the Illinois Farmers' Institute:

The undersigned members of the Executive Committee, having duly examined the claims of the parties named below, have approved the same, and recommend that warrants in payment of said vouchers be drawn to the order of the respective claimants for the following amounts, viz.:

655	To Nellie S. Kedzie, State Institute speaker, expenses.....	\$15 69
656	Cancelled.....	
657	To Fred H. Rankin, State Institute, expense, speaker.....	18 53
658	J. H. Monrad, State Institute, expense, speaker.....	8 00
659	Cancelled.....	
660	To Adams Express Company, shipping charges.....	15 35
661	American Express Company, shipping charges.....	21 36
662	L. H. Kerrick, State Institute speaker, expenses.....	7 85
663	Treasurer Green County Farmers' Institute, speaker, expenses.....	2 78
664	G. A. Willmarth, expenses as director.....	30 36
665	Treasurer Marshall County, Elmer Quinn, speaker's expenses.....	20 00
666	Putnam County Institute, State fund.....	50 00
667	Congressional Institute expenses.....	68 20
668	Stephenson County Institute, State fund.....	50 00
669	speaker expenses.....	20 00
670	Mercer County Institute, expense, State fund.....	50 00
671	speaker expenses.....	19 53
672	McLean County Institute, expense, State fund.....	50 00
673	speaker expenses.....	20 00
674	McDonough County Institute, expense, State fund.....	17 57
675	speaker expenses.....	26 00
676	Shelby County Institute, State fund.....	48 58
677	Warren County Institute.....	41 40
678	Randolph County Institute, State fund.....	50 00
679	speaker expenses.....	20 00
680	Mason County Institute, State fund.....	50 00
681	speaker expenses.....	9 50
682	Knox County Institute, State fund.....	50 00
683	speaker expenses.....	20 00
684	Iroquois County Institute, State fund.....	56 00
685	expense speakers, Congressional Institute.....	78 00
Total.....		\$638 37

Approved March 22, 1899.

G. A. WILLMARTH,
S. NOBLE KING,
L. N. BEAL,
CHARLES H. DOLTON,
AMOS F. MOORE.

On motion of Mr. Dolton the Committee took a recess until 2 o'clock p. m.

INSTITUTE ROOMS 2 P. M.

Committee met, same members present as at morning session.

Mr. King moved that the bill of Mrs. E. M. Coffman be referred back to the secretary of the Domestic Science Association for recommendation. Motion carried.

Mr. Dolton moved that the bill of Mr. Chas. F. Mills for expenses to Chicago and return, \$17.70, be deferred till the next meeting of the Executive Committee. Motion carried.

Mr. Moore asked that Mr. Mills be allowed to take records of the past Board, book of expenditures and other papers, so that he could complete and put the same in proper shape, and moved that he be allowed ten days in which to complete the records. The permission was granted.

Mr. Beal moved that the president of the Board be authorized to appoint the following standing committees of five members each:

1. Special features for improving County Institutes.
2. On organizing Township Institutes.
3. In Domestic Science Association.
4. On Agricultural Education and Library.

Motion carried.

The chairman asked for an expression of opinion in regard to the number of members of standing committees and the unanimous voice was that there should be five besides the chairman.

On motion of Mr. Beal the Committee adjourned.

Read and approved April 25, 1899.

A. B. HOSTETTER,
Secretary.

G. A. WILLMARTH,
President.

INSTITUTE ROOM, STATE HOUSE,
APRIL 25, 1899, 10:30 A. M.

The Executive Committee met pursuant to the call of the chairman. Roll call showed the following members present: Directors Willmarth, King, Kimzey, Lindemann, Shank, Beall and Secretary Hostetter.

The minutes of the previous meeting read and approved. The secretary presented the reports of the following County Institutes for audit: Cook, Lake, Pulaski, Kankakee, Grundy, Monroe and Vermilion.

Mr. King moved that the secretary be instructed to send a written notice to Mr. Charles F. Mills that the Executive Committee is in session and that he be requested to return all books and papers of the Illinois Farmers' Institute in his possession to the Institute room immediately. Motion carried.

On motion of Mr. King a recess was taken for dinner till 1:30 p.m.

INSTITUTE ROOM 1:30 P. M.

Committee again called to order; same directors present as before.

Mr. Kimzey moved that the bill of Mrs. E. B. Steinman for stenographic report of the State meeting at Princeton be referred to Ex-Secretary Charles F. Mills for payment. Motion carried.

Mr. Beall moved that the bill of Mr. Mills for trip to Chicago March 15th be deferred for future action. Motion carried.

Mr. Kimzey moved that Chairman Willmarth and Messrs Beall and King be a committee to call upon the authorities of State, with Mr. A. P. Grout, president of the Illinois Live Stock Breeders' Association, and to secure the right of additional pages for Volume IV of the Annual Report of the Illinois Farmers' Institute. Motion carried.

A recess was taken to give the committee time to act.

Treasurer A. P. Grout presented a report of the transactions of his office up to April 12, 1899.

Mr. Kimzey moved that a committee of three be appointed to audit the treasurer's report. Motion carried and the chairman appointed Directors Kimzey, Beal and King on such committee.

Mr. Willmarth, chairman of the committee to secure additional pages for the Annual Report, reported that the committee called upon the Secretary of State and were referred by him to the Board of Contracts for State Printing, who consented to allow the Illinois Farmers' Institute Report to be increased to six hundred pages.

The committee to whom was referred the Treasurer's report submitted the following:

INSTITUTE ROOM, CAPITOL HOUSE, April 25, 1899.

To the Honorable Executive Committee, State Farmers' Institute, Illinois:

GENTLEMEN:—We, your Committee appointed to audit the Treasurer's report, dated April 12th, 1899, do respectfully report that after having checked the various warrants and carefully examined his report, do find it correct and recommend the adoption of his report as submitted herewith, and that it be placed on file.

Respectfully submitted,

WALTER R. KIMZEY,
S. NOBLE KING,
L. N. BEAL,

Committee.

The following is the Treasurer's report:

WINCHESTER, ILL., April 12th, 1899.

Statement of receipts and orders paid by A. P. Grout, Treasurer Illinois Farmers' Institute, from February 23th, 1899, to April 12th, 1899.

Received of.			Paid out.		
1899.			1899.		
Feb. 28.	To bal. on hand.....	\$4,966 48	April 12.	By orders paid and re-	
Mar. 10.	State Treasurer.....	1,158 80		turned herewith.....	\$3,421 90
" 22.	Gaul, Wermich & Seibert	50 00	"	Balance on hand.....	3,280 91
April 8.	State Treasurer.....	507 53			
		\$6,682 81			\$6,682 81

The foregoing statement made by me as Treasurer is respectfully submitted to the Board of Directors of the Illinois Farmers' Institute, and I hereby certify that the above is correct.

A. P. GROUT, *Treasurer.*

Mr. Shank moved that the report of the committee be accepted and the report of the Treasurer adopted. Motion carried.

Mr. King moved that the Secretary be instructed to cancel warrants No. 656 and No. 659, as the bills for which they were drawn had been previously paid. Motion carried.

During the day the following bills were audited and warrants ordered drawn for the same:

To the Board of Directors of the Illinois Farmers' Institute:

The undersigned members of the Executive Committee, having duly examined the claims of the parties named below, have approved the same, and recommend that warrants in payment of said vouchers be drawn to the order of the respective claimants for the following amounts, viz.:

686	S. Noble King, expenses director.....	\$9 82
687	Memphis Crocker, 21st district conference delegate.....	1 40
688	J. D. Maxwell,	2 36
689	F. C. Paige,	2 64
690	Wm. J. Harms,	10 19
691	C. C. Patterson,	3 15
692	M. A. Dennis,	3 61
693	Peter Beaver, 19th district conference delegate.....	4 36
694	J. M. Holingsworth,	3 60
695	C. J. Lindemann, State speaker.....	2 75
696	Jonathan Perlman,	2 75
697	Chas. J. Lindemann, expenses director.....	15 25
698	J. D. Trimble, 19th district conference delegate.....	2 15
699	Robert C. Morris,	5 10
700	A. A. Nees,	5 66
701	A. H. Yanaway,	3 54
702	James A. Seed,	3 90
703	J. A. Sweet,	3 00
704	G. B. Vanderverter, 15th district conference delegate.....	5 22
705	G. W. Dean, director.....	5 67
706	S. N. Black, delegate.....	3 00
707	C. M. Doyle,	3 50
708	T. N. Baird,	3 69
709	W. B. Marvel,	4 55
710	Geo. H. Wehner, 14th district conference delegate.....	2 25
711	C. C. McCutchen,	2 20
712	C. J. Held,	2 80
713	Oliver Wilson, director.....	5 88
714	James T. McNabb, delegate.....	6 60
715	S. C. Wagener, 17th district conference delegate.....	2 35
716	St. Nicholas Hotel, 17th district, C. F. Mills	2 00
717	J. F. Bird, 17th district conference delegate.....	1 11
718	Amos F. Moore, 9th district conference director.....	3 34
719	Dwight Herrick, delegate.....	4 74
720	J. L. Hartwell,	2 51
721	G. W. Collins,	2 10
722	W. R. Hostetter,	1 90
723	John Dallyn,	4 00
724	F. M. Borders, 13th district conference delegate.....	4 49
725	Eugene D. Funk,	3 19
726	L. A. McLean, printing	5 00
727	Isaac S. Raymond, 13th district conference delegate.....	1 70
728	Joseph Hemineaway,	2 80
729	C. J. Bear,	2 24
730	J. F. Beal, 14th district conference delegate.....	2 10
731	E. W. Burroughs, expenses director.....	18 89
732	Coe Brothers, office supplies.....	5 05
733	Mrs. E. M. Coffman, Domestic Science Association.....	10 40
734	L. A. McLean, printing	15 00
735	Emma J. Davenport, Domestic Science Association.....	10 00
736	Illinois State Register, printing.....	4 59
737	Illinois State Register, office supplies, per Mills.....	18 70
738	E. F. Hartman Co., printing and postage	18 75
739	Coe Brothers, office supplies.....	22 85
740	United States Express Company	9 87
		\$310 23

Approved April 25, 1899.

G. A. WILLMARTH,
L. N. BEAL,
S. NOBLE KING,
WALTER R. KIMZEY,
D. H. SHANK,
C. J. LINDEMANN.

On motion a recess was taken until 8:00 p. m.

INSTITUTE ROOM, 8:00 P. M.

The same members present as at the previous session.

The secretary presented the following recommendation:

INSTITUTE ROOM, April 25, 1899.

To the Executive Committee, Illinois Farmers' Institute.

GENTLEMEN:—Whereas, the recent Legislature has set aside one-half of the funds for industrial education derived from the enactments by the General Government, to be used in Illinois for agricultural education, and has also made an appropriation of \$150,000 for an agricultural college building and equipments, therefore, I respectfully recommend that the Illinois Farmers' Institute, in order to create a greater interest in agricultural education and the college of agriculture, ask the trustees of the University of Illinois to provide for a scholarship in the College of Agriculture to be given to one person from each county in the State, upon terms similar to those already providing for scholarships.

Respectfully submitted,

A. B. HOSTETTER,

Superintendent.

Mr. Lindemann moved that it be made a special order of business for Wednesday morning. Motion carried.

Mr. Lindemann moved that the Executive Committee recommend to the Illinois Farmers' Institute Board of Directors, that a certificate of election as a director from their respective districts of the Illinois Farmers' Institute, be given to each director, to be signed by the chairman and secretary of the convention of delegates. Motion carried.

Mr. Lindemann moved that the secretary be instructed to make application at once for the printing of Volume IV of the Illinois Farmers' Institute annual report. Motion carried.

On motion a recess was taken to 8:00 a. m., Wednesday.

Read and approved April 26, 1899.

G. A. WILLMARTH,

A. B. HOSTETTER,

President.

Secretary.

INSTITUTE ROOM, April 26, 8:00 A. M.

The Executive Committee was called to order as per adjournment. Present: Directors Willmarth, King, Kimzey, Beal, Shank and Lindemann.

Minutes of previous meeting read and approved.

Mr. Kimzey moved that the following order of publication be adopted. Motion carried.

ORDER OF PUBLICATION OF ANNUAL REPORT.

1. The organization of the Illinois Farmers' Institute, giving the present Board and Committees, and the Officers from March, 1898, to March, 1899.
 2. The Acts creating the Illinois Farmers' Institute and making appropriation therefor.
 3. Proceedings of the open parliament of September, 1898.
 4. Proceedings of the State meeting and Convention of Delegates at Princeton.
 5. Report of the Domestic Science Association.
 6. Proceedings of the Institute Board and Committees.
- Papers under the following headings:
7. Horse Department.
 8. Cattle Department.
 9. Swine.
 10. Sheep.
 11. Poultry.
 12. Apiary.
 13. Dairy.
 14. Horticultural Department.
 15. Farm.
 16. Domestic Science Department.
 17. Educational.
 18. Farmers' Organization.
 19. Reports from County Institutes.
 20. Summary of Reports.
 21. Report of the Illinois Live Stock Breeders' Association.
 22. Index.

Mr. King moved that a committee of three be appointed to draw a resolution in accordance with the recommendation of the secretary.

Motion carried.

Chairman appointed Messrs. King, Kimzey and Lindemann, such committee. The committee reported as follows:

To the Executive Committee, Illinois Farmers' Institute.

GENTLEMEN:—We, your committee appointed to draft a resolution in reference to the College of Agriculture, respectfully submit the following:

To the Honorable Board of Trustees, University of Illinois.

GENTLEMEN:—Whereas, the recent Legislature has set aside one-half of the funds for industrial education derived from the enactments by the general government, to be used in Illinois for agricultural education, and has also made an appropriation of \$150,000 for an Agricultural College building and equipments, therefore, we respectfully recommend that, in order to create a greater interest in agricultural education and the College of Agriculture, the Trustees of the University of Illinois provide for a scholarship in the College of Agriculture to be given to one person from each county in the State upon terms similar to those already providing for scholarships in the other branch of the university.

Respectfully submitted,

S. NOBLE KING,
WALTER R. KIMZEY,
CHAS. J. LINDEMANN,

Committee.

Mr. Kimzey moved that the report of the committee be accepted and the secretary be instructed to send a copy of the resolution to the President of the Board of Trustees of the University of Illinois and a copy to the Dean of the College of Agriculture. Motion carried.

Mr. Kimzey moved that the name of Charles F. Mills be signed to the letter transmitting the annual report to the Governor.

Mr. Kimzey moved to lay his motion on the table. Motion to lay on the table carried.

Mr. Beal moved that the chairman appoint a committee of two to ascertain of Secretary of State Rose whether it is the duty of the past or present secretary to sign the letter transmitting the annual report to the Governor. Motion carried.

The chair appointed Messrs. Beal and King such committee.

A recess was taken to allow the committee to call upon Secretary of State Rose. Upon the return of the committee the meeting was again called to order and the committee made the following report:

We, your committee appointed to get the opinion of Secretary of State Rose as to who is the proper person to sign the letter of transmittal to the Governor of the report of the Illinois Farmers' Institute, beg leave to report that it is the opinion of Secretary of State Rose that it is the duty of the present secretary to sign all papers.

L. N. BEAL,
S. NOBLE KING,
Committee.

Mr. Kimzey moved that the report of the committee be accepted and the committee discharged. Motion carried.

Mr. Kimzey moved that the motion laid upon the table be taken up. Motion carried.

A vote was then taken upon the motion that the name of Charles F. Mills be signed to the letter of transmittal. Motion lost by a unanimous vote.

Mr. Beal moved that the following letter of transmittal be used:

To his Excellency, JOHN R. TANNER, Governor of Illinois.

SIR:—I have the honor to transmit the Report of the Illinois Farmers' Institute for the year 1898, and trust an inspection of its contents will satisfy you that the funds appropriated by the General Assembly for the advancement of useful education among the farmers, and for developing the agricultural resources of the State, have been wisely expended.

Respectfully submitted,

A. B. HOSTETTER,
Secretary.

Motion carried.

Mr. King moved that a committee consisting of Chairman Willmarth and Director Kimzey be appointed to act with the secretary in compiling the annual report.

Mr. Kimzey moved to amend the motion by inserting the name King instead of Kimzey. Amendment carried. Motion as amended adopted.

Mr. Kimzey moved that the Report of the Illinois Domestic Science Association be inserted in the annual report as furnished by its secretary, Mrs. E. Davenport. Motion carried.

The following bills were presented and allowed:

To the Board of Directors of the Illinois Farmers' Institute:

The undersigned members of the executive committee, having duly examined the claims of the parties named below, have approved the same, and recommend that warrants in payment of said vouchers be drawn to the order of the respective claimants for the following amounts, viz:

741	Pacific Express Company.....	\$3 91
742	A. B. Hostetter, services for March.....	125 00
743	Isaac boys, expenses 11th district conference, delegate.....	5 96
744	Wm. L. Walker,	5 18
745	C. C. Pervier,	4 12
746	G. A. Willmarth,	24 50
747	A. B. Hostetter, expenses meeting in Chicago.....	11 50
748	Treasurer Stark County Institute, State speakers.....	20 00
749	A. B. Hostetter, postage and office supplies.....	4 75
750	Treasurer Vermilion County Institute, State speakers.....	1 15
751	expenses.....	50 00
752	Treasurer Grundy County Institute, expenses.....	44 75
753	Treasurer Monroe County Institute, expenses.....	21 75
754	Treasurer Kankakee County Institute, expenses.....	50 00
755	State speakers	20 00
756	Treasurer Pulaski County Institute.....	50 00
757	State speakers.....	20 00
758	Treasurer Lake County Institute.....	50 00
759	Treasurer Cook County Institute.....	50 00
760	State speakers	3 50
761	Mrs. E. B. Steinmann, report of State meeting.....	75 00
762	Charles J. Lindemann, expenses as director.....	16 75
763	G. A. Willmarth,	21 80
764	D. H. Shank,	15 75
765	L. N. Beal,	16 80
766	American Express Company.....	8 07
767	F. W. Beardsley, expenses 15th district conference delegate.....	3 38
768	S. Noble King.....	12 77
		\$785 86

Approved April 26, 1899.

G. A. WILLMARTH,
C. J. LINDEMANN,
WALTER R. KIMZEY,
L. N. BEAL,
D. H. SHANK,
S. NOBLE KING.

Mr. King moved that a committee consisting of Messrs. Lindemann and Kimzey be appointed to call on Ex-Secretary Mills and secure all the books and papers belonging to the Illinois Farmers' Institute.

Mr. Lindemann moved to amend the motion by striking out the names Lindemann and Kimzey and inserting the names King and Beal. Amendment carried.

The motion as amended was then put and motion carried.

Mr. King moved to adjourn till 1:15 p. m. Motion carried.

INSTITUTE ROOM, 1:15 P. M.

Meeting called to order. The same members present as at previous session.

Mr. Kimzey moved that the bill of Mrs. E. B. Steinmann for stenographic report of the meeting at Princeton, for the sum of \$75.00, be allowed. Motion carried, all present voting aye.

Mr. King moved that when the Executive Committee adjourn, it adjourn to meet at Vandalia, Illinois, on May 23rd, at the hour of 1:30 p. m. Motion carried.

Mr. King moved that President Willmarth be authorized to employ an expert to straighten out, correct, write up and transcribe all papers and proceedings of State Institute pertaining to the work of our Ex-Secretary, Charles F. Mills. Motion carried.

Mr. King moved that we accept the manuscript of the Live Stock Breeders Association and publish it in the annual report, not to exceed one hundred and forty pages. Motion carried.

On motion of Mr. Beal adjourned to meet in Vandalia, May 23rd.

Read and approved at Executive Committee meeting at Vandalia, May 23rd.

A. B. HOSTETTER,
Secretary.

G. A. WILLMARTH,
President.

 DEICKMAN HOTEL,

VANDALIA, ILL., May 23, 1899.

Pursuant to adjournment the Executive Committee met at 1:30 p. m. Present: Chairman Willmarth, Directors King, Kimzey, Shank, Lindemann and Secretary Hostetter.

Minutes of previous meeting, April 26, were read and approved.

Mr. Shank moved that in publishing the reports of County Institutes in the annual report, the programs be given in full without comment, and that, including the cuts, no county report should exceed more than one page. Motion carried.

Mr. King moved that the bill of Charles F. Mills for expenses to Chicago of March 15, 1899, previously deferred, be taken up, audited and paid. Motion carried.

A recess was taken to attend the 18th Congressional Institute then in session, till after the evening meeting of the Institute.

 10 P. M.

The committee was again called to order. Same members present as at the afternoon session.

Mr. King moved that the secretary be instructed to write Ed. F. Hartman & Company that the Executive Committee will accept their proposition to make cuts for the annual report at \$1.15 each on the basis of thirty-five or more cuts. Motion carried.

Mr. Kimzey moved that the secretary be instructed to invite Mr. Easterly, of the 22d Congressional District, to be present at the next meeting of the Board of Directors. Motion carried.

Mr. Kimzey moved that the secretary have rubber stamps made for President Willmarth, Vice President Beal, each of the new directors, D. H. Shank and the secretary. Motion carried.

Chairman Willmarth reported that in compliance with the instructions of the Executive Committee to secure a competent person to write up and inscribe the records of the last board, that he had employed Miss C. A. Bull to do the work at \$2.50 per day for time necessarily employed, and had instructed the secretary to see that the work was properly and faithfully done.

Mr. Kimzey moved that the report of the chairman be accepted and Miss Bull be continued in the work till the same is completed. Motion carried.

On motion a recess was taken until 8 a. m., May 24.

May 24, 8 A. M.

Committee met as per adjournment.

Same present as at previous session, except Director Shank, who returned home on an early train.

Mr. Lindemann offered the following resolution:

WHEREAS, The annual report of the Illinois Farmers' Institute will be so full as to exclude almost all papers read at the County Farmers' Institute meetings, therefore be it

Resolved, That the Live Stock Breeders' Association be asked to eliminate from their report the constitutions and proceedings of their meetings and that our secretary be and is hereby instructed to arrange with their secretary to this end.

Mr. Kimzey moved the adoption of the resolution. Motion carried.

Mr. Kimzey offered the following resolution:

Resolved, That it is the sense of the Executive Committee that the sub-committee, consisting of President Willmarth and Director King, who were appointed to pass upon what should be published in the annual report, should abbreviate or eliminate the open parliament proceedings which have heretofore been ordered published, to give more space to papers from County Institutes, if, in their judgment, it becomes necessary to do so.

Mr. Lindemann moved the adoption of the resolution. Motion carried.

The following bills were presented, audited and ordered paid:

To the Board of Directors of the Illinois Farmers' Institute:

The undersigned members of the Executive Committee, having duly examined the claims of the parties named below, have approved the same, and recommend that warrants in payment of said vouchers be drawn to the order of the respective claimants for the following amounts, viz.:

769	James S. Peak, Flora, expenses 20th district conference delegate	\$1 65
770	Walter Rigg, Albion,	5 10
771	D. R. Webb, Benton,	3 55
772	A. J. Yates, Mt. Vernon,	3 52
773	S. T. Maxey, Mt. Vernon,	3 00
774	O. H. Wood, Friendsville,	6 82
775	E. A. Rankin, Fairfield,	6 60
776	Daniel Berry, Carmi,	5 00
777	L. N. Beal, Mt. Vernon,	1 00
778	T. W. Thompson, Carbondale, expenses 22d district conference delegate	1 00
779	L. J. Hess, Anna,	2 65
780	W. H. Leidigh, Villa Ridge	4 70
781	R. H. Austin, Choa,	6 76
782	George Gebaur, Goleconda	6 72
783	J. C. B. Heaton, New Burnside,	4 06
784	H. S. Anderson, Harrisburg,	7 98
785	A. M. Townsend, Marion,	3 98
786	L. N. Beal, Mt. Vernon,	7 76
787	C. D. Bartlett, Bartlett, expenses 8th district	8 00
788	H. D. Compton, Wheaton,	3 50
789	Alonzo Stunzel, Yorkville,	3 50
790	George A. Hunt, Greenwood	4 60
791	Joseph Ingham, Aurora,	3 50
792	B. F. Wyman, Sycamore,	4 10
793	W. A. Wally, Morris,	7 30
794	A. G. Charles, Knoxville, expenses 10th district	7 70
795	John N. Conger, Wyoming,	5 29
796	R. M. Pinkerton, Viola,	2 22
797	C. A. Wetherby, Sterling,	6 06
798	Robert J. Forgy, Woodhull,	3 30
799	U. S. Express Company	1 30
800	Maurice Joyce Eng. Co., 414 11th street, Washington, D. C.	2 25
801	A. B. Hostetter, salary for April	125 00
802	Chas. F. Mills, Springfield, expenses as director	10 65
803	Sherman House, expenses Chas. F. Mills committee	8 50
804	The Gazette, Champaign, on account Domestic Science Association	43 37
805	G. A. Willmarth, expenses as director	11 00
806	A. H. Miller, treasurer Moultrie county, for G. W. Monroe, Sullivan	6 53
807	F. Dresser, treasurer Bond county, for F. Dresser, Sorento	1 24
808	L. S. Dorsey, Moro, treasurer Madison Co., for L. A. Spies, St. Jacob	5 25
809	W. S. Middlesworth, Shelbyville, treasurer of Shelby county, for W. E. Killman, Tower Hill	3 60
810	A. A. K. Sawyer, Hillsboro, treasurer Montgomery county, for Ed. Grimes, Raymond	1 59
811	R. T. Higgins, Vandalia, treasurer Fayette county, for Chas. E. Cox	3 35
812	E. W. Burroughs, Edwardsville, expense as director	14 07
813	Chas. F. Mills, Springfield,	17 70
814	J. R. P. Farrelly, expenses, delegate 16th con. district conference	1 50
815	H. J. Westlake,	5 75
816	W. B. Otwell, Carlinville,	4 30
817	H. Miner, Winchester,	2 15
818	A. P. Grout, Winchester, expenses as director	1 25
819	Walter R. Kimzey, Tamaroa,	33 12
820	D. H. Shank, Paris	10 70
821	Wm. J. Ruder, Springfield, office supplies	1 75
822	S. Noble King, Bloomington, expenses as director	8 23
823	Chas. J. Lindemann, Chicago,	15 00
824	A. B. Hostetter, expense Executive Committee at Vandalia	7 83
825	G. A. Willmarth, Seneca, expenses as director	19 50
826	Treasurer Fayette County Institute, R. T. Higgins, Vandalia	49 45
827	.....	50 00

Approved May 24, 1899.

C. J. LINDEMANN,
WALTER R. KIMZEY,
G. A. WILLMARTH,
S. NOBLE KING.

On motion of Director Kimzey the Committee adjourned.

A. B. HOSTETTER,
Secretary.

G. A. WILLMARTH,
President.

INSTITUTE ROOM,

June 27, 1899, 1:30 P. M.

The Executive Committee of the Illinois Farmers' Institute met pursuant to the call of the chairman. Roll call showed the following members present: Willmarth, Kimzey, Beal, Shank, Lindemann; Mr. King being excused to attend Board of Trustees, University of Illinois meeting in Chicago.

The minutes of previous meeting at Vandalia, May 23d, were read and approved.

Chairman Willmarth made the following report:

REPORT OF SUB-EXECUTIVE COMMITTEE.

To the Executive Committee of the Illinois Farmers' Institute.

GENTLEMEN:—In compliance with your instructions to secure a competent person to compile and transcribe the records of the past board not recorded by Ex-Secretary Mills, I beg leave to report that I employed Miss C. A. Bull to do this work, that the work has been done in a satisfactory manner and I hereby recommend that her bill for the same, namely \$14.37, be paid.

Respectfully submitted,

G. A. WILLMARTH.

Mr. Lindemann moved that the report of the chairman be adopted. Motion carried.

Chairman Willmarth made the following report for sub-committee on compiling the annual report.

REPORT OF SUBCOMMITTEE.

To the Executive Committee, Illinois Farmers' Institute.

GENTLEMEN:—Your Committee, appointed to act with the superintendent in compiling the annual report, beg leave to report that we have examined and approved the cuts that are to be inserted in the forthcoming volume.

We found that a large number of instructive and interesting papers had been sent in to the secretary from County Institutes. We selected from them sufficient copy to fill the available space in the report, the selection being made not only for the merits of the papers, but also so as to cover as wide a range of topics as possible.

In view of the fact that 8,000 Institute Parliament bulletins had been published and about 6,000 of them are yet available for distribution, and having found that more space was necessary to make room for papers read at County Institutes, we therefore, in compliance with your resolution of instruction, eliminated the entire parliament proceedings from the report. We are pleased to report that the copy for volume IV is now in the secretary's office ready for the printer. Application has been made for the publication of 10,000 copies and an order issued by the Secretary of State for the printing of the same.

Your committee also called upon the Secretary of State's office and urged the prompt completion of the work.

Respectfully submitted,

G. A. WILLMARTH.

Mr. Kimzey moved that the report be approved. Motion carried.

Mr. Kimzey moved that when the secretary sends out the next annual report, Volume IV, that he send out one of the Open Parliament bulletins with each report. Motion adopted.

The secretary read the following communication from W. L. Pillsbury, Secretary of the Board of Trustees of the University of Illinois:

URBANA, ILL., June 24, 1899.

MR. A. B. HOSTETTER,
Secretary Illinois Farmers' Institute, Springfield, Ill.

DEAR SIR:—I beg leave to inclose herewith copy of a resolution passed by the Board of Trustees of the University of Illinois, concerning scholarships in the Agricultural College.

Very respectfully yours,

W. L. PILLSBURY, *Secretary*.

"Resolved, That the University receive into the Agricultural College for the period of two years each, one student from each county outside of Cook county, and one from each of the first seven congressional districts of the State upon the recommendation of the Executive Committee of the State Farmers' Institute, and that all term fees of such students be remitted; *Provided*, the students so recommended shall not have previously been in the University and shall comply with all conditions of admission to the College of Agriculture."

This resolution bears the signatures of Mrs. Alice Asbury Abbott and Mr. Fred L. Hatch, of the Committee on Agriculture.

Mr. Lindemann offered the following resolution:

**Resolved*, That the secretary be instructed to convey to the Board of Trustees of the University of Illinois the sincere thanks of the Illinois Farmers' Institute for their kindness in complying with the request of the Executive Committee for free scholarships in the College of Agriculture, and assure them of our hearty support in the cause of education.

On motion of Mr. Shank the resolution was adopted.

Mr. Kimzey offered the following resolution and moved its adoption:

Resolved, That all applications from each county for scholarships to the State College of Agriculture, shall be made to the director of the State Farmers' Institute within whose congressional district said county may lie. The applications to be endorsed by either the president or secretary of the County Farmers' Institute.

The director shall recommend the award to the Executive Committee of one person for each county from the said applications. And that the expenses incurred by the director in making such recommendations shall be allowed.

Motion adopted.

Mr. Kimzey moved that a committee of two be appointed to draft a uniform letter to be used by the directors in advertising and awarding the scholarships. Motion carried.

The Chair appointed Messrs. Kimzey and Beal as such committee.

The treasurer, A. P. Grout made the following report:

June 26, 1899.

Statement of receipts and orders paid by A. P. Grout, treasurer Illinois Farmers' Institute from April 12 to June 26, 1899.

Received of.			Paid out.		
1899.			1899.		
April 12.	To balance on hand	\$3,260 91	June 26.	By orders paid out and returned herewith....	\$2,101 41
May 8.	State Treasurer.....	316 50		Balance on hand.....	1,587 33
June 3.	State Treasurer.....	50 00			
" 16.	Gaul, Wermich & Seibert	61 33			
		\$3,688 74			\$3,688 74

A. P. GROUT,

Treasurer.

Mr. Kimzey moved that the treasurer's report be received and a committee of two appointed to audit the same. Motion carried.

The chair appointed Directors Lindemann and Shank as such committee.

Chairman Willmarth made the following report of his acts.

REPORT OF CHAIRMAN.

Having learned from several reliable sources that there was a disposition on the part of the president of the University of Illinois and some of its Board of Trustees to evade by delay the provisions of the so-called Funk bill, which had been enacted through the efforts of the Illinois Farmers' Institute, in the interest of the College of Agriculture, and believing that the College of Agriculture needs money for immediate use, and an expansive policy inaugurated for future development, we felt that there was an emergency which required immediate action to sustain the work so well undertaken by the Farmers' Institute.

In view of these facts, and the impossibility of convening the Executive Committee in time to take action in the premises, your chairman took it upon himself to associate Director King and Secretary Hostetter as a committee with himself to wait upon Governor Tanner to solicit his aid in behalf of the College of Agriculture and to ask his presence at the meeting of the University Trustees on June 27. Having received a promise of hearty support from the Governor, the committee decided to rally all the friends of the College of Agriculture at the trustee meeting on the 27th in Chicago. Your chairman and Secretary Hostetter went to Chicago on the 22d for this purpose and secured the coöperation of the Agricultural Press Association and a promise of a committee of their association to wait upon the trustees.

Trustees F. M. King and Superintendent Alfred Bayliss were called upon and messages sent to other members of the Board of Trustees urging them to attend the meeting of the Board of Trustees in the interest of the College of Agriculture. Your chairman also delegated Director King to attend the trustee meeting and present the views of the Illinois Farmers' Institute to that body.

Trusting that the urgency of the case will excuse an apparent assumption of authority and that my action will meet with your approval, I am,

Yours respectfully,

(Signed.)

G. A. WILLMARTH,

Chairman.

Mr. Lindemann moved that the action of the chair and his report be approved. Motion carried.

The committee to audit the treasurer's statement reported as follows:

MR. CHAIRMAN:—We, your committee to check up the Treasurer's report as represented, being from April 12 to June 28, 1899, have examined the report and find it correct.

CHARLES J. LINDEMANN,
D. H. SHANK.

A recess was taken, subject to the call of the chairman.

Wednesday, June 28, 1899, 8:00 A. M.

Committee called to order by the Chairman. Present: Directors Willmarth, Beal, Kimzey, Shank, Lindemann and King.

Mr. Kimzey moved that the bill of Director Sara Steenberg for expenses of Institute meeting in her district on June 6th for \$50.00 be allowed. Motion adopted, all present voting aye.

Mr. Beal moved that the chair appoint a committee of two to call upon the State Commissioners of Contracts and ask for an increase of 5,000 volumes of the annual report. Motion carried.

The chair appointed Messrs. Beal and Kimzey as such committee.

Committee reported as follows:

We, the committee appointed to interview the Board of Contracts in an endeavor to procure a larger number of printed reports, beg leave to submit the following:

The Secretary of State being absent, the committee called upon State Auditor McCullough, State Treasurer Whittemore, and Secretary of the Board Clanahan, each of whom promised to do what he could towards securing a larger number of reports, but expressed their doubts as to whether the law would allow such increase.

L. N. BEAL,
WALTER R. KIMZEY.

Committee.

The following bills were read, approved and ordered paid.

To the Board of Directors of the Illinois Farmers' Institute:

The undersigned members of the Executive Committee, having duly examined the claims of the parties named below, have approved the same, and recommend that warrants in payment of said vouchers be drawn to the order of the respective claimants for the following amounts, viz.:

828	Treasurer Henry County Institute, Robert Fargy, Institute expenses	\$50 00
829	Treasurer McHenry County Institute, H. T. Thompson, Institute expenses	50 00
830	Treasurer McHenry County Institute, H. T. Thompson, State speakers	20 00
831	Adams Express Company	11 44
832	A. B. Hostetter, salary as secretary and superintendent for May	125 00
833	Chas. F. Mills, expenses director	2 80
834	Illinois State Register, printing and postage	17 50
835	A. B. Hostetter, postage and expenses attending committee meeting	16 75
836	Western Union Telegraph Company	58
837	American Express Company	1 02
838	Oliver Wilson, expenses director	8 79
839	Oliver Wilson, expenses director	34 49
840	E. Davenport, expenses director	10 18
841	A. B. Hostetter, expenses secretary Library Committee meeting	11 80
842	C. A. Bull, transcribing records	14 87
843	Sara Steenberg, 3rd District Institute expenses	50 00
844	E. W. Burroughs, expenses director	22 75
845	E. J. Todd, janitor services	2 00
846	S. Noble King, expenses director	9 75
847	S. Noble King, expenses as director	5 28
848	Amos F. Moore, expenses as director	44 27
		\$512 32

Approved June 28, 1899.

G. A. WILLMARTH,
L. N. BEAL,
D. H. SHANK,
CHARLES J. LINDEMANN.

On motion a recess was taken subject to the call of the Chairman.

JUNE 29, 1899, 3.30 P. M.

The Executive Committee met on call of the chairman. Present Directors Willmarth, Beal, Lindemann and Shank.

Mr. Shank moved that the balance of the funds appropriated by the 40th General Assembly, after paying all accrued bills, be invested in books for the travelling libraries. The roll was called; those voting aye were Willmarth, Shank, Lindemann, Beal. Absent King and Kimzey. Ayes 4; nays none. Motion adopted.

Mr. Lindemann moved that the secretary be instructed to have two hundred and fifty roster cards printed for each director and stationery for the newly elected members. Motion carried.

Mr. Beal reported for the committee to draft a letter for use of the directors in awarding the scholarships in the College of Agriculture. On motion of Mr. Lindemann the following letter was approved:

ILLINOIS FARMERS' INSTITUTE SCHOLARSHIPS IN THE COLLEGE OF AGRICULTURE.

The Board of Trustees of the University of Illinois, in order to meet the increasing demand for agricultural education, offer one scholarship in the College of Agriculture free of tuition to each county in the State.

Any young man or woman over sixteen years of age, of..... County, desirous of securing the award of this scholarship, should apply to..... of....., Director of the..... Congressional District, who will make the award from the list of applicants from each county in his District

The applications must be signed by either the President or Secretary of the County Farmers's Institute of the county in which the applicant lives, and filed with the Director not later than....., 1899.

The Director will be at at 1:30 P. M.
to meet personally as many of the applicants as can be present at the above
time and place. For any further information regarding the scholarships,
write to

.....
Director Illinois Farmers' Institute.

Mr. Shank moved that the president and secretary be instructed to revise the blank for reports of County Institutes, and have a supply, sufficient for the use of the counties, printed. Motion adopted.

Mr. Lindemann moved that the secretary be instructed to write to the list of speakers as recommended by the board, asking their consent, terms, subjects and time of year in which they can attend Institutes, and that when the replies are received, the chairman and secretary be authorized to compile and publish the list. Motion carried.

Mr. Beal moved that the secretary be instructed to ask the University for blank forms for applications for scholarships. Motion carried.

Mr. Beal moved that the president and secretary be authorized to draw warrants for County Institute expenses when the same comply fully with the laws of the State and rules of the board. Motion carried.

The following bills were read, approved and ordered paid:

To the Board of Directors of the Illinois Farmers' Institute:

The undersigned members of the Executive Committee, having duly examined the claims of the parties named below, have approved the same, and recommend that warrants in payment of said vouchers be drawn to the order of the respective claimants for the following amounts:

849	Illinois Association Domestic Science, postage, printing	\$10 00
850	Oliver Wilson, expenses as director	2 00
851	E. Davenport,	32 44
852	Ed. F. Hartman Company, printing and cuts	91 85
853	E. W. Burroughs, expenses as director	9 35
854	L. N. Beal,	25 46
855	Charles H. Dolton,	8 85
856	Henry M. Dunlap,	7 25
857	Edw. F. Hartman Company, printing	5 00
858	W. R. Goodwin, expenses as director	15 55
859	F. I. Mann,	16 50
860	H. G. Easterly,	15 00
861	Sara Steenberg,	21 75
862	J. H. Coolidge,	16 00
863	G. A. Willmarth,	14 25
864	G. W. Dean,	12 43
865	Walter R. Kimzey,	23 42
866	G. A. Willmarth,	18 50
867	A. P. Grout,	17 30
868	G. A. Willmarth,	29 00
869	James Frake,	15 75
870	D. H. Shank,	22 50
871	G. A. Willmarth,	10 85
872	Charles J. Lindemann,	28 96
873	A. B. Hostetter, salary secretary and superintendent for June	125 00
874	G. A. Willmarth, expenses as director	24 00
		\$617 96

Approved June 29, 1899.

G. A. WILLMARTH,
L. N. BEAL,
CHARLES J. LINDEMANN,
D. H. SHANK.

On motion of Mr. Lindemann, adjourned subject to the call of the chairman.

Read and approved July 27, 1899.

A. B. HOSTETTER,
Secretary.

G. A. WILLMARTH,
President.

INSTITUTE ROOM, June 28, 1899, 1:30 P. M.

Board met on call of the chairman. Roll call showed the following members present: Beal, Burroughs, Coolidge, Davenport, Dean, Dolton, Dunlap, Frake, Fulkerson, Goodwin, Grout, Gurler, Kimzey, King, Lindemann, Mann, Mills, Moore, Shank, Steenberg, Willmarth, Wilson.

Chairman Willmarth recommended the following order of business for board meetings, which, on motion of Mr. Kimzey, was adopted.

ORDER OF BUSINESS FOR BOARD MEETING.

Roll Call.

Reading of Minutes of Previous Meeting.

Reading of the Minutes of the Meetings of the Executive Committee.
Communications and Petitions.

Reports of Standing Committees:

1. Committee on State Institute Meeting.
2. Committee to select Speakers for County Institutes.
3. Committee on Legislation.
4. Committee on Organizing Township Institutes.
5. Committee on Special Features for Improving County Institutes.
6. Committee on Domestic Science Association.
7. Committee on Agricultural Education and Library.
8. Executive Committee.

Report of Superintendent of Institutes.

Reports of Special Committees.

Unfinished Business.

New Business, Resolutions and Motions.

The minutes of the previous meeting of the board were read and approved. The secretary also read the minutes of all the meetings of the Executive Committee up to and including the meeting of June 27th.

Under the head of communications and petitions, Director L. N. Beal made the following report:

To the Board of Directors, Illinois Farmers' Institute:

In accordance with a motion made by Mr. Kimzey and adopted by the Board of Directors, February 28, 1899, as follows: "That L. N. Beal be appointed to call a delegate meeting in the 22nd District to arrange dates for the County Institute Meetings in the Counties of said district, and that the delegates to said meeting select a Director for the District."

I called said meeting to meet at Carbondale, May 6, 1899. The following counties were represented, and by whom:

Jackson, by T. W. Thompson, Carbondale.

Union, by L. J. Hess, Anna.

Pulaski, by Wm. H. Leidigh, Villa Ridge.

Massac, by A. H. Austin, Choat.

Pope, by Geo. Gebauer, Golconda.

Johnson, by J. C. B. Heaton, New Burnside.

Saline, by H. S. Anderson, Harrisburg.

Williamson, by A. M. Townsend, Marion.

Alexander,

Mr. H. G. Easterly, Carbondale, Jackson County, was elected as director by said delegates for the 22nd District, and I recommend that he be confirmed as such by this board, as one of its members, to date from the day of his election, viz., May 6, 1899.

Respectfully submitted,

L. N. BEAL.

Mr. Kimzey moved that the report of Mr. Beal be accepted and Mr. Easterly be elected the director for the Twenty-second district. Motion carried.

The following letter was read from Director Cleveland, and on motion of Mr. Lindemann, his resignation was accepted:

CHICAGO, June 19, 1899.

Secretary Farmers' Institute, Springfield, Ill.

DEAR SIR:—Please accept my resignation as director of this district. It is absolutely impossible for me to find the necessary time to properly devote to this work.

Very truly yours,

GEO. H. CLEVELAND.

Mr. Dolton nominated Mr. F. C. Rossiter, of Chicago, to fill the vacancy caused by the resignation of Director Cleveland.

Director Burroughs placed in nomination John M. Clark, of Chicago, as a candidate for the same position.

Mr. Wilson moved that we proceed to elect a director for the Fourth Congressional District by ballot and that the first ballot be an informal one. Motion carried.

The informal ballot was then taken, with the following result: John M. Clark, 14 votes; F. C. Rossiter, 7 votes.

The formal ballot was then taken, resulting as follows: John M. Clark, 17 votes; F. C. Rossiter, 7 votes.

Mr. Clark having received a majority of all votes cast was declared duly elected director for the Fourth Congressional District.

Mr. Dolton moved the election be made unanimous. Motion carried.

The next order of business being the Reports of Committees, the Committee on State Institute Meeting made the following report:

To the Honorable Board of Directors of the Illinois Farmers' Institute.

GENTLEMEN:—We, your Committee on State Institute Program, beg leave to report that we met in the Institute room on May 29th, at which time the following sub-committees were appointed:

On Exhibits—Messrs. Beal, Willmarth and Mills.

On Local Arrangements—Wilson, Bartlett and Willmarth.

On Program—Wilson, Willmarth, Mills, Grout and Beal.

The committee met again in the Institute room June 27th at 10:30 a. m., and beg leave to report progress on program, as follows:

TUESDAY FORENOON.

Session to open with song, America; G. A. Willmarth, Chairman; opening exercises; prayer; address of welcome by ———; response by Col. as. F. Mills; President's address; report of Secretary and reports of ty Institutes.

It is recommended that the practice of having the directors make a report at the State meeting be dispensed with, and instead that the directors make report for their respective districts in writing and submit same at the February meeting of the board.

TUESDAY AFTERNOON.

President of the Domestic Science Association, Chairman; ladies' session, program to be arranged by the Domestic Science Association.

TUESDAY EVENING.

G. A. Willmarth, Chairman; an educational session, in which Professor Davenport, Superintendent of Instruction Bayliss, and ex-Governor W. D. Hoard, of Wisconsin, have been invited to take part.

WEDNESDAY FORENOON.

Geo. H. Gurler, President Illinois Dairymen's Association, Chairman; a live stock and dairy program, to be led by papers by H. B. Gurler, on Dairying; A. P. Grout, on Live Stock, and Mrs. S. Rose Carr, on Poultry.

WEDNESDAY AFTERNOON.

H. M. Dunlap, President State Horticultural Society, Chairman; horticultural session, in which J. W. Stanton, on the subject of Shipping Fruits; Professor Blair, on Cultivation of Orchards, and H. A. Aldrich, on Spraying of Fruits, will be invited to take part.

WEDNESDAY EVENING.

Mrs. L. G. Chapman, Chairman; a session devoted to Home-Making, in which Mrs. H. M. Dunlap, Mrs. M. L. Copeland and others, whose names are not yet agreed upon, will take part.

THURSDAY FORENOON.

Col. W. H. Fulkerson, President State Board of Agriculture, Chairman; a farm crop session, in which Prof. P. G. Holden is invited to talk on Corn Culture; Henry Wallace, Des Moines, Ia., on Clover, and Wheat Culture by party yet to be named.

THURSDAY AFTERNOON.

G. A. Willmarth, Chairman; miscellaneous topics; Charles Bogardus invited to speak on Illinois Farmers' Institutes, and the topics of Farmers' Organizations, and The Farmer and the Railway, by speakers not yet secured.

The sessions to be interspersed with music and close with the song, "God be with us till we meet again."

Invitations have also been sent to Assistant Secretary of Agriculture J. H. Brigham for an address on Advanced Agriculture, and to Governor Mount, of Indiana, for an address on The Farmer of the Future. If these invitations are accepted they will be given a place on the program.

The time for holding the State Institute meeting was fixed for February 20, 21 and 22, 1900. A letter was prepared asking for bids for the location, and mailed to all cities in the State outside of Chicago of two thousand inhabitants and over. In reply to which responses were received from the following cities: Champaign, Centralia, Effingham, Galena, Lincoln, Monmouth, Paris, Peoria, Rushville, Springfield, Mt. Vernon, Carlinville.

The committee also report that they recommend an exhibit of fruits and farm products and ask that \$500 be appropriated for the payment of premiums, the exhibit to consist of the following general classification: On plates of apples and other fruits from the three divisions of the State; corn and other grains from the three divisions of the State; house and ornamental plants.

We submit this as a general plan for the State Institute meeting program, and ask the coöperation of all in completing and carrying out the same.

Respectfully submitted,

OLIVER WILSON,
A. P. GROUT,
CHARLES F. MILLS,
L. N. BEAL,
G. A. WILLMARTH.

Mr. Dunlap moved that we adopt the recommendations of the committee and that the committee be authorized to complete the program.

Mr. Goodwin moved that the question be divided. Motion carried.

The chair announced that a vote would be taken on that part of the report relating to the program. Motion to adopt the program carried. The roll was then called upon the question of appropriating money for exhibits. Those voting aye were Directors Beal, Burroughs, Davenport, Dunlap, Frake, Gurler, Mann, Mills, Willmarth, Easterly. Those voting nay were Directors Coolidge, Dolton, Goodwin, Grout, King, Lindemann, Moore, Shank, Steenberg.

Those voting aye, 10; nay, 9; excused from voting, Dean and Wilson; Kimzey and Fulkerson absent.

Mr. Dunlap's motion carried as a whole.

Mr. Gurler moved that dairy products be added to the list of articles exhibited. Motion carried.

Mr. Burroughs moved that pantry stores be included in this exhibit.

Mr. Dunlap offered as a substitute for Mr. Burroughs' motion that the question of pantry stores and other articles be referred to the Committee on Exhibits. Motion carried.

Report of the committee to select speakers for County Institutes. Mr. Coolidge, chairman of this committee, made the following report:

We, your committee appointed to prepare a list of State speakers, beg leave to report that we recommend the following list. Also that the secretary be authorized to add any additional names that may be sent in, properly endorsed by directors of this board. We also recommend that the secretary be instructed to write to the parties named as State speakers and secure their consent to have their names used, the time that they will be available, and their terms before publishing the list:

FIRST DISTRICT.

Name.	Postoffice.	Subject.
A. J. Lovejoy	Rosco	Hogs
Amos F. Moore	Polo	Farming
C. L. Lindemann	Chicago	Farming
L. N. Beal	Mt. Vernon	Horticulture
M. H. Tichenor	Chicago	Horse
W. R. Kimzey	Tamaroa	
T. D. Randel	Chicago, 219 S. Water st.	Produce for Market
Mr. Kats, Jr.	South Park, Chicago.	Tree Culture

SECOND DISTRICT.

Miller Purvis	Lake Forest	Poultry and General Farming.
Ira B. Cottingham	Eden	Pigs, Poultry
Thomas Bennett	Rosesville	Horses, Pigs
Edwin Hobson	Clinton	Draught Horses
S. N. Wright	Elgin	Dairy Cattle, Dairying
L. McWhorter	Aledo	Beef Cattle
William T. Potts	Union Stock Yards	Beef Cattle, Sheep
F. J. Berry	Union Stock Yards	Horses, Packing Houses
John S. Brotton	East St. Louis	Horses, Horse Markets
Mrs. Robert Holloway	Alexis	Poultry
David Ward Wood	Chicago	

SEVENTH DISTRICT.

Jothan Periam	Rogers Park, Chicago	Farmers' Garden; Forage Plants
C. W. Farr	184 LaSalle st., Chicago	Farm and School
H. D. Hughes	Antioch	The Silo: A Milk Dairy; Sheep on the Farm; Farm Fences

EIGHTH DISTRICT.

H. B. Gurler	DeKalb	Dairy
B. F. Wyman	Sycamore	Poultry
D. W. Wilson	Elgin	Dairy
Dr. Ed. Fry	Naperville	Veterinary Science
R. T. Morgan	Wheaton	Rural Schools
H. C. Middaugh	Clarendon Hills	Roads and Drainage
Fred Beldin	Kaneville	Cattle and Hog Feeding
S. N. Wright	Elgin	Dairy Breeds
Mrs. W. B. Lloyd	Elgin Ellyn	Domestic Science
Mrs. Lillian Ballou	Wheaton	Home Making
C. D. Bartlett	Bartlett	Dairying

NINTH DISTRICT.

W. R. Hostetter	Mt. Carroll	Farm Dairies
A. W. Brayton	Mt. Morris	Horticulture Should be Taught in Our Public Schools
Roy Swigart	Dixon	Bee Culture on the Farm
Dr. J. H. Moore	Polo	Stone Roads
L. M. Swansey	Ridott	
Dwight Herrick	Rochelle	Potato Culture
Lovejoy Johnson	Sullivan Valley	
John Dallyn	Galena	
A. B. Hostetter	Mt. Carroll	
James King	Rockford	Fat Cattle or Cattle Feeding

TENTH DISTRICT.

Name.	Postoffice.	Subject.
W. B. Frew	Aledo	Good Roads
R. S. Snare	Castleton	Good Roads and Poultry Raising
J. A. Condor	Wyoming	Bees; Fruit
K. M. Sisson	Galesburg	Swine Breeding
A. N. Abbott	Union Grove	Teaching Agriculture in Rural Schools

ELEVENTH DISTRICT.

Mrs. L. G. Chapman	Freedom	Farmers' Daughters
Arthur Bryant	Princeton	Horticulture
C. C. Pervier	Sheffield	Clover
Dr. Weese	Ottawa	Veterinary Science
E. S. Fursman	El Paso	Corn
G. A. Willmarth	Seneca	Swine
C. P. Lovejoy	Princeton	Veterinarian
Alfred Bayliss	Springfield	Education

THIRTEENTH DISTRICT.

Miss Maud Hall	Arcola .....	.....
Mrs. McCarty .....	.....	.....
Joseph McCombe .....	.....	Farm Literature; Cooperation of Farmers; The Town Cow and How to Keep Her
Jacob Zeigler	Clinton	Sheep
H. D. Watson .....	.....	Clover; Benefits of Diversified Farming; Planting, Cultivating and Growing of Corn
W. E. Lodge	Monticello	Farming for Profit
C. A. Tapman .....	.....	Farm Management
John M. Love	Sidney	Farm Telephone
C. H. Van Vleet	Philo	Cost of Raising a Bushel of Corn
Mrs. W. W. Newman	Clinton	Cost of Raising a Bushel of Oats
Mrs. Noble King	Bloomington	Attractive Country Homes; Success in Life
L. H. Kerrick .....	.....	Cattle Feeding
H. M. Dunlap	Savoy	Horticulture
Mrs. H. M. Dunlap .....	.....	Domestic Science

FOURTEENTH DISTRICT.

Ralph Allen	Delavan	Dairy
D. W. Vitrum	Canton	Clover
W. B. Mills	Mt. Palatine	Corn Culture
W. G. Griffith	Clear Creek	Hogs
Mrs. Kedzie	Peoria	Domestic Science
J. M. McNabb	Mt. Palatine	Farm Road Drainage
W. E. Hawthorne	Granville	Education
Oliver Wilson	Magnolia	Farmers' Organizations
J. W. Thornton .....	.....	Sheep

FIFTEENTH DISTRICT.

Thomas Bailey	Camp Point	How to Succeed on the Farm
Maurice Kelly	Liberty	How, When and Where to Retire from Farming
W. H. Nees	Macomb	Care and Disposition of Fine Cattle
Fred G. Miner	Adair	How I Feed Cattle for Market
I. B. Frisbee	Mendon	Farmer's Garden
G. W. Madison	Plainville	Farming Now Compared with When I was a Boy
Thos. McClarnahan	Monmouth	Economy on the Farm
James A. Teal	Rushville	Farm Life
J. B. Vandeventer	Mt. Sterling	To Make Life Pleasant on the Farm
G. W. Dean	Adams	Education of the Farm Boy

SIXTEENTH DISTRICT.

Name.	Postoffice.	Subject.
E. R. Whittleton	Barry	Clover
W. B. Conover	Virginia	Cattle
A. P. Grout	Winchester	
Wood	Calhoun county	
W. E. Barber	Hamburg	
Thos. H. Ferns	Jerseyville	
T. S. Chapman	"	
Col. W. H. Fulkerson	"	
E. A. Reihl	Alton	
Helen Reihl	"	
Mrs. H. J. Wesley	Pittsfield	
J. K. P. Faraly	Daum	
W. H. Stoddard	Carlinville	
C. G. Winn	Griggsville	
F. D. Moulton	Whitehall	
Major Gillard	"	
H. Wilkerson	"	
A. C. Rice	Jacksonville	
W. A. Roe	"	
Charles Roe	"	
Henry Miner	Winchester	
N. R. Smithson	"	

SEVENTEENTH DISTRICT.

Fred H. Rankin	Athens	Clover; Corn; Success on Farm
James A. Stone	Bradfordton	Horticulture; Bee Keeping
L. H. Coleman	Springfield	Farm Fences
S. E. Wagener	Pana	Horse Breeding
J. T. Foster	Elkhart	Corn Culture; Meadows and Pasture
Mrs. E. M. Coffman	Mechanicsburg	Domestic Science
Mrs. Harry Grundy	Morrisonville	Domestic Science
Mrs. Eva H. Springer	Springfield	Butter Making
George Williams	Athens	Horse Breeding
John Kincaid	"	Horse Breeding
John Imboden	Decatur	Feeding Beef Cattle
James R. Miller	Springfield	Fellowship Among Farmers
C. P. Johnson	"	Sanitary Conditions of Live Stock
R. N. Bell	Decatur	Sheep
John G. Springer	Springfield	Sheep
J. H. Pickrell	"	Cattle Breeding
Percy Stone	Bradfordton	Boy on the Farm

EIGHTEENTH DISTRICT.

W. A. Young	Butler	Horticulture; Farmers' Institutes
I. L. Killam	Brunswick	Sheep
Louis A. Spies	St. Jacob	Swine; Milk Dairy; General Farming
Mrs. Katherine Stahl	Moro	Farm Home; Educational Topics
E. W. Burroughs	Edwardsville	Growing and Marketing of Potatoes

NINETEENTH DISTRICT.

Mrs. S. Rose Carr	Lis	Domestic Science; Poultry
John O. Honnold	Warrenton	Rural Schools
G. H. Gordon	Paris	The Farmer as a Citizen; The Farmer's Boy; Rotation of Crops; Clover; The Farmer and the Rural Schools
J. M. Hollingsworth	Ridge Farm	Fertilizing; Swine Breeding; Feeding and Marketing
G. H. Larrabee	Olney	Soja Bean; Cow Pea
Dr. Robert C. Morris	Olney	

TWENTIETH DISTRICT.

Name.	Postoffice.	Subject.
Dr. J. Schenck.....	Mt. Carmel.....	Botany.....
S. S. Seller.....		Preparing Cattle For Market.....
Paul Chipman.....		Civil Engineering for the Farm.....
Jacob Zimmerman.....		Good Roads.....
A. P. Henderson.....	Albion.....	Soil Fertility.....
John Landrigan.....		The Road Horse.....
Daniel Berry.....	Carmel.....	Mental Development of Children.....
W. C. Davis.....		Clover, the Poor Man's Fertilizer.....
Miss Minnie King.....		Forage Crops; Relative Food Values.....
		Silos and Dairying.....
		The Eight Years Public School Course.....
		and Its Relation to Agriculture.....
		Benefits of Farmers' Institutes.....
		Hogs on the Farm.....
		Horticulture.....
		Domestic Science.....
		Raising and Feeding Swine.....
		Profitable Farming.....
		Fruit Raising.....
		Bee Culture.....
		General Horticulture and Small Fruit.....
		The Town Farmer.....

TWENTY-FIRST DISTRICT.

W. H. Kerr.....	Prairie Du Rocher.....	Swine.....
W. N. Wilson.....	Baldwin.....	Feeding the Farm.....
D. F. Miller.....	Belleville.....	Potato Culture.....
William Baltz.....	Millstadt.....	Good Roads.....
Miss Laura Patterson.....	Belleville.....	Domestic Science.....
A. A. Hincley.....	DuBois.....	Stock Peas and Soja Beans.....
J. W. Stanton.....	Richview.....	Horticulture.....
F. L. Williams.....	Tamaroa.....	Horticulture.....
W. T. White.....	Cutler.....	Swine Breeding; Poultry Raising.....
Jos. W. Drury.....	Waterloo.....	Dairying.....
J. L. Haun.....	Beaucoup.....	Poultry.....
Charles Merrick.....		Veterinarian.....
Dr. S. A. Forbes.....	Urbana.....	Insects Injurious to Corn; Insects Injurious to Wheat; Insects Injurious to Forage Crops; The Economic Control of the Chinch Bug.....
Prof. E. Davenport.....	Urbana.....	Agricultural Education; Heredity, Its Advantages and Disadvantages in Stock Breeding; The Agricultural Course at the University of Illinois.....
Donald McIntosh.....		Diseases of Farm Animals.....
P. G. Holden.....	Urbana.....	The Sugar Beet Industry of Illinois; Pure Food Legislation Needed for Illinois; Small Things in Agriculture; Success on the Farm; Corn Cultivation Experiments at University of Illinois.....
J. C. Blair.....		Horticulture for the Farm; Orchard Cultivation; Spraying; The Horticultural Interests of Illinois.....
W. J. Fraser.....		Production of Pure Milk.....
A. W. Palmer.....		Drinking Waters.....
H. S. Grindley.....		Foods—Their Nutritive Value and Cost.....
A. D. Shamel.....		An Experiment in Corn Cultivation.....
L. D. Hall.....		An Experiment in Pig Feeding.....
E. T. Robbins.....		Common Reversions to Unimproved Characters Among Domestic Animals.....
J. A. Latzer.....		Bacteria in Their Relation to Agriculture.....
T. Ralph Miner.....		The Advantages of Humus in Agricultural Soils.....
John E. Raymond.....		Need of an Agricultural Survey of Illinois.....

Respectfully submitted,

J. H. COOLIDGE,
Chairman.

Mr. Mann moved that the report be referred back to the committee with instructions to strike out twenty-five per cent of the names of those who are speakers on general topics.

Mr. Goodwin moved, as a substitute for Mr. Mann's motion, the following resolution:

Resolved, That the Committee on Speakers for County Institutes be instructed to eliminate all subjects which are of a general or diffuse character more suited for literary exercises or pink teas than for the serious work of the Farmers' Institute.

Mr. Goodwin's motion lost.

A vote was then taken upon Mr. Mann's motion to refer report back to committee. Motion lost.

Mr. Wilson moved that the report of the committee be adopted; Motion carried.

Committee on Legislation made the following report:

To the Illinois Farmers' Institute:

The undersigned Committee on Legislation beg leave to report that an act making an appropriation for the State and County Farmers' Institute, was prepared by the committee and favorably considered by the General Assembly. The bill passed by the General Assembly provides for an increase of \$500.00 as compared with the amount heretofore appropriated.

The committee prepared a bill providing for the increase in the number of State Institute reports. The bill was favorably considered and received practically the entire vote of the General Assembly, but was vetoed by the Governor on constitutional grounds.

The committee took an active part in securing the appropriation made for the construction of a building for the State Agricultural College.

The General Assembly manifested a very high appreciation of the work of the Illinois Farmers' Institute and favorably considered every measure presented by this organization.

A. P. GROUT,
G. W. DEAN,
AMOS F. MOORE,
S. NOBLE KING,
CHARLES H. DOLTON,
CHARLES F. MILLS,
H. M. DUNLAP,

Committee.

Mr. Davenport moved that the report be approved. Motion carried.

Mr. Mills, chairman of the Committee on Township Institutes, made the following report:

To the Illinois Farmers' Institute:

The undersigned committee, appointed to devise a scheme for the organization of Township Farmers' Institutes, begs leave to report that at a meeting held in Chicago, May 11, 1899, it was decided to request the presidents of County Institutes to name one representative farmer in each township to take charge of the organization of the Institute therefor.

Favorable responses have been received from the officers of the following County Institutes, who have recommended a party in each township to organize an Institute therein, viz.: Cass, Christian, Coles, Cumberland, DeKalb, Douglas, Ford, Fulton, Greene, Jefferson, Logan, Madison, Marion, Massac, McDonough, McHenry, Montgomery, Pike, Randolph, Rock Island, Sangamon, Wabash and Washington.

It was decided at the meeting of the committee referred to above, that in counties in which no list of representative farmers was received from County Institute officials, the supervisors be requested to take charge of the organization of the institute in the township, or to select some suitable person to look after the work.

The committee has prepared a constitution to be recommended for adoption by the Township Institutes, which suggestive outline is submitted herewith as a part of this report. (See A.)

The committee presents herewith a draft of a circular letter which it recommends to be issued to those in charge of the organization of Township Institutes as outlining the purpose and scope of this work, and submitting valuable suggestions for the organization and conduct of such Institutes. (See B.)

The committee has under consideration the draft of a suggestive program of topics, one for each month of the year, which outline may be varied to meet the local conditions. In this program it is proposed that one day of three sessions be taken in each month for the Township Institute. The morning session to be devoted to the presentation and discussion of topics of especial interest to the farmer and his son; the afternoon to be occupied by the wife and daughter of the farmer in the consideration of the improvement of home life, and the evening session to be reserved for the young people.

It is believed that the interest of the rising generation will be enlisted by holding prize essay contests in each district school on some subject connected with farm life, the best essay written by a boy and girl respectively in each school to be read at the evening session of the Township Institute as a feature of the program. It has been demonstrated that the program of papers, discussions, debates, recitations and music rendered at Institutes is the most powerful factor yet applied for the improvement of the material and social welfare of the farmer, and this new movement of bringing the ramifications of this effective educational system within the reach of all, the committee believes, will receive the most cordial support of the progressive farmers of the State. The Township Farmers' Institute will bring to the farmers' door instructions in crop growing, live stock breeding and feeding, and all the duties that pertain to rural husbandry and home making. As only a tithe of the agricultural population can go away to college, it is all important that instruction be carried into farming communities through the means of Township Institutes where all may have a chance to take advantage of it.

The committee has received, with one single exception, the most enthusiastic pledges of cordial and hearty support in the work of organizing and sustaining Township Farmers' Institutes.

Respectfully submitted,

CHARLES F. MILLS,
CHARLES J. LINDEMANN,
AMOS F. MOORE,
G. A. WILLMARTH,
W. R. GOODWIN,
F. I. MANN,

Committee.

A.

CONSTITUTION.

ARTICLE I--NAME.

The name of this organization shall be the _____ Township Farmers' Institute.

ARTICLE II--OBJECT.

The object of this Institute shall be the advancement of agriculture and the improvement of home life.

ARTICLE III—MEMBERSHIP.

Membership shall consist of not less than six farmers residing in this township.

ARTICLE IV—OFFICERS.

Officers shall consist of a president, vice president, secretary, treasurer and librarian, to be elected at the annual meeting and hold office until their successors are chosen. These officers shall constitute the executive committee, which shall manage the Institute.

ARTICLE V—STANDING COMMITTEE.

Standing committees of three each shall be appointed by the president at each annual meeting, as follows: Program, music, household economy, library and entertainment.

ARTICLE VI—DISCUSSIONS.

No member shall occupy more than fifteen minutes in essay or discussion, and subjects of a political or sectarian nature are barred.

ARTICLE VII—MEETINGS.

Meetings shall be held at the residence of one of the members or at such other place as may be appointed on ——— preceding or nearest each full moon, at 9:30 a. m.

ARTICLE VIII—ORDER OF BUSINESS.

1. Reading of minutes.
2. Report of committees.
3. Unfinished or new business.
4. Exercises arranged by the Program Committee, including question box.
5. Dinner.
6. Exercises arranged by the program committee on Household Economy, including question box.
7. Supper.
8. Evening exercises as arranged by the Committee on Entertainment.
9. Song, America.

ARTICLE IX.—AMENDMENTS.

Amendments may be made at any monthly meeting by a two-thirds vote of the members of the Institute, notice having been given in writing and the proposed change read at a previous meeting.

CHARLES F. MILLS,
AMOS F. MOORE,
CHARLES J. LINDEMANN,
W. R. GOODWIN,
F. I. MANN.

B.

To the Officers of Township Farmers' Institutes:

The undersigned committee appointed by the Illinois Farmers' Institute to assist in the organization of Township Farmers' Institutes, request hearty coöperation in the work of perfecting and promoting such associations.

The assistance is desired of all willing to aid in promoting good fellowship and neighborly feeling, of securing the mutual improvement in mind and morals, in seeking the best methods in husbandry and housewifery, and helping on that good time "when our garners shall be full affording all manner of store, and our sons shall be as plants grown up in their youth, and our daughters may be as corner stones, polished after the similitude of a palace."

The object of the Township Farmers' Institutes is to teach better methods of farming, stock raising, fruit growing, and all branches of business connected with the industry of agriculture; to stimulate correct principles and best practices of domestic science to the end that the health of the coming generation may be preserved, and the comfort of their homes assured and more time be given to mental development and the accomplishments of life.

The Institute should not be operated in the direct or indirect interest of any party, grange, alliance, farmers' club, sect or organization, but for the equal good of all citizens and farming communities.

No subject should be presented at the Institute meeting, or discussion allowed, of a political or sectarian nature; nor should any speaker be allowed in his lecture, essay or speech, or in any discussion, to advertise wares or schemes in which he has a direct or indirect interest. The officers of Institutes shall see that the exercises are not subordinated to any low or frivolous entertainments, or to the aggrandizement of any individual, party or sect. The membership should consist of reputable farmers, their wives, sons and daughters. In essays and discussions participants should so confine themselves to the topics of husbandry and housewifery as to wholly avoid the vexed questions of politics and theology.

This work will result in great usefulness if all matters are presented in a spirit that will promote good fellowship and insure a full measure of enjoyment and benefit to all in attendance.

Respectfully submitted,

CHARLES F. MILLS,
CHARLES J. LINDEMANN.
G. A. WILLMARTH,
F. I. MANN,
W. R. GOODWIN,
AMOS F. MOORE.

Mr. Beal moved that the report of the committee be adopted.

Motion carried.

Mrs. Steenberg made a verbal report and on motion of Mr. Mills was given further time in which to complete her report.

Mr. Davenport, in behalf of the Committee on Agricultural Education and Library, made the following report:

To the Hon. Board of Directors of the Illinois Farmers' Institute.

GENTLEMEN:—We, your committee on agricultural education and library, beg leave to report that the committee met in Champaign June 13, and discussed the relation of the Illinois Farmers' Institute to the educational forces of the State. We respectfully recommend for your consideration the offer made by the University of Illinois of a free scholarship in the College of Agriculture to one person in each county of the State and suggest that the award of these scholarships be made through the director of each congressional district and that the directors use every effort to have as many of these scholarships as possible awarded this summer.

We recommend that the Institute workers throughout the State be urged to use their influence in increasing the use of nature studies in our rural schools; that every effort be made to create a live interest among school children in the various forms of life and growth to be found on and about the farm; that the public school teachers also be encouraged to inform themselves along these lines.

We regard good literature in the farmer's home as one of the strongest educational mediums, and therefore recommend that a system of travelling libraries be established by the Illinois Farmers' Institute.

That all the library fund now on hand, \$190.00 in amount, be used for this purpose and sufficient additional funds not to exceed \$1000.00, be appropriated to secure twenty-five sets of books for a trial of the system.

We further recommend that these libraries be placed in charge of the Superintendent of Institutes, and that he be authorized to prepare plans and specifications for the purchase, circulation, care and use of these libraries; but that no books be purchased nor printing done till the plans for same have been submitted to and approved by the executive committee.

We also recommend that a special committee of two directors be appointed with the president of the board, to act with the superintendent in the selection of the books for these libraries. That each set of books or library should contain some works on practical and scientific agriculture, some books on Domestic Science, and the rest of each set to be chosen with reference to interesting all the members of the farmers' family in the use of the library.

All of which is respectfully submitted for your approval.

E. DAVENPORT,
F. I. MANN,
G. A. WILLMARTH,
D. H. SHANK,

Committee on Agricultural Education and Library.

The Chair appointed Bayliss and Davenport as committee to act with him as above, with the superintendent, in the selection of books.

Mr. Burroughs moved that the report be adopted and demanded a roll call.

Those voting aye are as follows: Beal, Burroughs, Coolidge, Davenport, Dean, Frake, Goodwin, Grout, Gurler, Kimzey, King, Mann, Mills, Shank, Steenberg, Willmarth, Wilson, Easterly. Nays none. Report adopted.

G. A. Willmarth, Chairman, in behalf of the Executive Committee, made the following report:

To the Honorable Board of Directors of the Illinois Farmers' Institute:

GENTLEMEN:—As you have heard the minutes of the executive committee meetings read, it will not be necessary to make an elaborate report.

Since the installation of the present board of directors, the executive committee has audited accounts and drawn orders upon the general fund of the Institute to the total amount of \$2,835.12, vouchers for which are on file in the secretary's office, leaving now in the hands of the treasurer, available for the use of the board.

We recommend the issuing of a certificate of election to the director of each district to be signed by the chairman and secretary of the convention of delegates electing him.

The University of Illinois, in response to a request of this committee, granted a scholarship in the College of Agriculture, and placed the awarding of the same in our hands. We have arranged for the director in each district to recommend this award and ask that provision be made by the board of directors to pay the necessary expenses incurred by the directors in attending to those scholarships.

We take pleasure in reporting that the copy for the 4th volume of the Illinois Farmers' Institute reports is ready for the printer. That an order has been issued by the Secretary of State for the publication of 10,000 copies of the same and the commissioners of contracts urged to secure their early com-

pletion. There was more material in the way of interesting and instructive papers read at County Farmers' Institutes than could be included in a volume of 600 pages. We therefore, selected from the list so as to include as large a range of topics as possible. We have also included in the report, the proceedings of the Domestic Science Association and report of the Illinois Live Stock Breeders' Association.

Respectfully submitted,

G. A. WILLMARTH,
Chairman.

Mr. Mann moved the adoption of the report of the executive committee. Motion carried.

Mr. Wilson moved that when the board adjourn it be to meet in the Senate Chamber at eight o'clock p. m. and that the selection of the place for holding the State meeting be the order of business. Motion carried.

On motion of Mr. Mann the board adjourned.

SENATE CHAMBER,

June 28, 1899, 8:00 P. M.

The board met pursuant to adjournment and was called to order by President Willmarth. Roll call showed the following directors present: Beal, Burroughs, Coolidge, Davenport, Dean, Dunlap, Frake, Goodwin, Grout, Gurler, Kimzey, King, Lindeman, Mann, Mills, Moore, Shank, Steenberg, Willmarth, Wilson, Easterly.

The chair announced that the order of business was the selection of the place for holding the State Institute meeting. The secretary then read the bids and communications from the following cities: Champaign, Centralia, Carlinville, Effingham, Galena, Lincoln, Monmouth, Mt. Vernon, Paris, Peoria, Rushville and Springfield.

An opportunity was then given the parties present to advocate the advantages of their respective cities. Mr. B. L. Hussman spoke in favor of Effingham. Director Beal and Captain J. R. Moss in favor of Mt. Vernon. Director Shank and Mayor Baum advocated the claims of Paris. Director Dean and Messrs. Herman H. Brown, L. G. McCreary and George M. Black spoke for Rushville. After all parties had been heard, Mr. Kimzey moved that the vote be by ballot; that the first ballot be an informal one, and that the city receiving a majority of all votes cast be selected for the location. Motion carried.

The chair appointed Directors Davenport and Burroughs tellers.

The first and informal ballot resulted as follows: Champaign 2; Carlinville 1; Centralia 1; Lincoln $\frac{1}{2}$; Monmouth $\frac{1}{2}$; Mt. Vernon 7; Paris 4; Peoria 1; Rushville $2\frac{1}{2}$; Springfield $\frac{1}{2}$. Total 20. Second ballot: Carlinville 1; Lincoln $\frac{1}{2}$; Mt. Vernon 8; Paris 8; Rushville 3; Springfield $\frac{1}{2}$. Total 21. Third ballot: Carlinville 1; Lincoln $\frac{1}{2}$; Mt. Vernon 9; Paris 7; Rushville 3; Springfield $\frac{1}{2}$. Total 21. Fourth ballot: Lincoln $\frac{1}{2}$; Mt. Vernon 9; Paris 10; Rushville 1; Springfield $\frac{1}{2}$. Total 21. Fifth ballot: Mt. Vernon 12; Paris 8; Rushville 1. Total 21.

Mt. Vernon, having received a majority of all the votes cast on the 5th ballot, was declared the choice of the board for the location of the next State Institute.

Mr. Dean moved to make the vote unanimous. Motion carried.

Mr. Goodwin offered the following resolution and moved its adoption:

WHEREAS, The facts of human experience absolutely and undeniably disprove the statement that tuberculosis is a dangerously contagious disease, and

WHEREAS, The probability of the transmission of this disease from animals to man is yet disputed by eminent scientists, and

WHEREAS, The present unwise and unwarranted crusade of some representatives of the medical and veterinary professions against our herds on the ground of alleged disease is prejudicing the public against beef and milk, the most wholesome of human foods, and thus working untold damage to agricultural interests, therefore be it

Resolved, By the Illinois Farmer's Institute that the offer of the Chicago Society for the Prevention of Tuberculosis to send lecturers to our Farmers' Institutes to spread this dangerous scare, is emphatically declined.

Mrs. Steenberg offered the following as a substitute for Mr. Goodwin's resolution.

That the Secretary be instructed to notify the Society for the Prevention of Tuberculosis, that the Illinois Farmers' Institute declines their offer to furnish speakers at County Institutes.

Motion to adopt the substitute lost.

A roll call being asked on the adoption of Mr. Goodwin's resolution, it was adopted by the following vote:

Those voting aye: Coolidge, Davenport, Frake, Goodwin, Grout, Kimzey, King, Lindemann, Mills, Moore, Shank, Steenberg, Willmarth, Easterly. Those voting nay: Beal, Burroughs, Dunlap, Gurler, Mann, Wilson. Ayes 14; nays 6.

The Committee on Domestic Science Association made the following report:

LELAND HOTEL, CHICAGO, June 6, 1899.

Committee on Domestic Science called to order by Mrs. Sara Steenberg, chairman.

The accompanying letter from the secretary of the Domestic Science Association was read. Also one from the president urging the coöperation of the Farmers' Institute, stating that very much of their success depends upon the sympathy and assistance received from the Institute.

After considerable discussion of the importance of the work of Domestic Science and the objects of the Institute, the following resolution was approved unanimously and recommended to the board of directors for adopting:

"Resolved, That the Illinois Farmers' Institute recognize the Illinois Association of Domestic Science as an affiliated association and its work as a legitimate branch of the work of the Farmers' Institute; therefore be it

"Resolved, That the Illinois Farmers' Institute appropriate to its Executive Committee a sum not exceeding three hundred dollars to defray expenses of said Domestic Science Association for the year beginning July 1, 1899, the same to include the expenses of the annual meeting of said Association.

"Resolved, That we recommend that officers of County Institutes set aside one session of each Institute for topics and discussions relating to Domestic Science."

SARA STEENBERG, *Chairman.*

E. DAVENPORT,

E. W. BURROUGHS,

S. NOBLE KING,

G. A. WILLMARTH.

Mr. Mills moved the adoption of the report and demanded the ayes and nays. The roll was called with the following vote:

Those voting aye: Burroughs, Davenport, Dean, Dunlap, Goodwin, Grout, King, Lindemann, Mann, Mills, Moore, Shank, Steenberg, Willmarth, Wilson, Easterly. Ayes 16; nays none. Motion adopted.

On motion of Mr. Davenport adjourned till 8:30 a. m., Thursday, June 29, 1899.

INSTITUTE ROOM, June 29, 1899.

The board met as per adjournment. Roll call showed the following members present: Beal, Coolidge, Davenport, Dunlap, Grout, Lindemann, Mills, Moore, Shank, Steenberg, Willmarth, Wilson.

The superintendent made the following report:

To the Honorable Board of Directors of the Illinois Farmers' Institute.

LADY AND GENTLEMEN:—It affords me great pleasure in presenting my first report, or budget of recommendations, to be able to say that the work heretofore done in Illinois on Institute lines has been productive of growth, and now at the close of the term, provided for by the first appropriations made for the State Farmers' Institute, we find the Institutes of the State in a healthy condition of growth and increasing usefulness. The last General Assembly recognized this condition of the Institutes by continuing the organization of the State Farmers' Institute and making increased appropriations for its support.

District conferences have been held in all the Congressional Districts outside of Chicago. With few exceptions every county in the district has been represented at the respective conferences. These conferences have proved of great value to the director in each district, enabling him to organize his workers and get them early into the field. In this connection I recommend that hereafter the list of State speakers be approved at the February meeting of the Board, so that the delegates may have the use of the list at the district conferences. I suggest the adoption of a rule to that effect.

In regard to the organization of the Institute work, I am of the opinion that the director should be the recognized head of the work in his district, and that he should be held responsible for its conduct. The superintendent, therefore, so far as the district work is concerned, should be subservient to the director, ever ready to render assistance under his direction. But those features of the work whose operation extends over more territory than a single district, which is intended to influence the State at large, I am confident should be under the direction of the superintendent, and all correspondence relating thereto, conducted through the secretary's office. Both the director and the superintendent, in all cases, to be supervient to the rules of the board. I believe it imperative for the efficiency of the secretary's office and the good of the work as a whole that some rule of the board be adopted to cover these cases.

I respectfully recommend that an eight or twelve page circular be published at an early date to contain the list of State speakers, their subjects and terms; the time and place of the state meeting and the premium list offered; the time and place of the congressional round up meetings; and all County Institute meetings that have been fixed. That it also contain a notice of the award of scholarships in the College of Agriculture and the way in which they can be secured; an appeal to the officers of County Institutes to supplement the State appropriations with local funds to the end that two Institute meetings may be held in each county the coming season; also a few suggestions upon the arrangement of programs, including a plan adopted by this board for the secretary to furnish one thousand programs to each county.

I also recommend the adoption of some rule by which the bills, which comply with the laws of the State, and the rules of the board, for the expenses of conducting County Institutes, can be paid without the delay, which is an annoyance to County Institute officers, and the expense, which is a drain on the State Institute fund, when the executive committee is obliged to meet to audit these bills before payment.

In view of the fact that a large number of the agricultural editors of Illinois and other States, send their papers to the Farmers' Institute free, I recommend that a rack or shelving be secured for the proper filing and preservation of the same.

And lastly, I would recommend, if the condition of the Institute fund will permit, and I think it will, the purchase of a typewriting machine, which is now considered a necessity in every public office equipment, for the use of the secretary's office. All of which is

Respectfully submitted,

A. B. HOSTETTER,
Superintendent.

Mr. Dunlap moved that the superintendent's report be submitted to a committee of three. Motion carried.

The chair appointed Messrs. Dunlap, Grout and Wilson such committee.

Professor Davenport asked consent to make a few remarks. Consent being granted, he spoke in the highest praise of the work of the Illinois Farmers' Institute in promoting the interests of the College of Agriculture. He thanked the Institute board in behalf of the College of Agriculture and himself personally for the good work done.

Mr. Dunlap, chairman of the Committee on Special Features for Improving County Institutes, stated that he had been detained by a wreck on the railroad and that he had not been able to get a quorum of his committee to act. He suggested that more thought should be given to the needs of the locality where the Institute is held in the arrangements for county meetings.

He also recommended a list of speakers who are especially capable and specialists in the lines of work for the use of County Institutes.

Mr. Grout moved that in view of the fact that there is no quorum of the Committee on Special Features for Improving County Institutes, that a special committee be appointed. Motion carried.

The chair appointed Directors Grout, Beal and Steenburg as such committee.

Mr. Dunlap, chairman of the Committee on the Superintendent's Report, made the following report:

MR. CHAIRMAN:—The superintendent recommends that the work of committees which has reference to matters covering more than one district, as the publication of circulars, etc., be done through the office of the superintendent of Institutes and we recommend the adoption of the following resolution:

Resolved, That all correspondence and circulars pertaining to Institute work of the State, which covers more than the work of one district, shall be done through the office of the State superintendent or secretary.

The publication of a circular containing a list of speakers, premium list and information pertaining to scholarships in the State University met with the approval of your committee.

The matter of holding two Institutes in one county we approve as to large counties or where practicable.

The matter of expediting the payment of claims of County Institutes and Institute workers we suggest should be taken up by the board and some better method adopted than prevails at present.

We approve the asking for shelving to file agricultural papers and reports. Also suggest that a committee be appointed to secure, if possible, from the Secretary of State the use of a typewriter in the secretary's office.

Respectfully submitted,

H. M. DUNLAP,
OLIVER WILSON,
A. P. GROUT,

Committee.

Mr. Lindeman moved that the report of the Committee and the resolution therein offered be adopted. Motion carried.

Mr. Grout, chairman of the special Committee, made the following report:

To the Board of Directors of the Illinois Farmers' Institute.

GENTLEMEN:—Your special committee, to whom was referred the report of the committee on special features, for the improving of County Institutes, herewith submit the following report:

We recommend that a list of speakers be selected by this board of directors not to exceed fifty names, which can be fully recommended as thoroughly competent, qualified and available on the various topics assigned them for all parts of the State; a list of names of speakers which the board of directors can guarantee as experts in their several lines and a list to which the officers of the County Institutes can safely refer.

We further recommend that an additional list of active Institute speakers and workers be prepared and published for the use of the directors of the several districts and that all inquiries relative to speakers be referred by the secretary to the director of the district.

We further recommend that the director of each district be requested to report at the annual meeting in February the names of such parties whom he can fully endorse and recommend to be added to either of the lists of State speakers and that the lists of speakers be selected at the time.

Respectfully submitted,

A. P. GROUT.
L. N. BEAL,
SARAH STEENBURG.

Mr. Lindemann moved that the report be adopted. Motion carried.

Mr. Dunlap moved to reconsider the motion adopting the report of the committee on State speakers. Motion carried.

The chair stated that the motion now was on the adoption of the report of the committee to select speakers for County Institutes.

Mr. Coolidge moved as a substitute that report of the committee to select speakers for County Institutes be referred to the executive committee, under the report of the committee on special features for improving County Institutes, for final action. Motion carried.

The chair appointed Mr. Dunlap, a committee to secure if possible the use of a typewriter machine from the Secretary of State for the secretary's office.

Mr. Mills moved that in compliance with the invitation of Farmers' National Congress, for this body to name a delegate, that we elect our president, G. A. Willmarth, to represent the Illinois Farmers' Institute at the next meeting of the Farmers' National Congress. Motion carried.

Mr. Mills moved that \$500.00 be set aside for expenses of the State Institute meeting and demanded a roll call.

Those voting aye: Beal, Coolidge, Davenport, Dunlap, Grout, Lindemann, Mills, Moore, Shank, Steenberg, Willmarth, Wilson. Nays, none. Ayes, 11. Motion adopted.

Mr. Davenport moved that \$1,500 be appropriated for the expenses of directors or so much thereof as may be found necessary. Roll call showed those voting aye to be Beal, Coolidge, Davenport, Dunlap, Grout, Lindemann, Mills, Moore, Shank, Steenberg, Willmarth. Nays, none. Ayes, 11; nays, none. Motion adopted.

On motion of Mr. Lindemann, a recess was taken till 1:30 p. m.

INSTITUTE ROOM, 1:30 P. M.

Board met as per adjournment. Same members present as at the morning session, except Oliver Wilson.

Mr. Davenport moved to reconsider the motion appropriating \$500 State meeting expenses. Motion carried.

Mr. Davenport moved to lay the motion reconsidered on the table. Motion to table carried.

Mr. Lindemann moved to reconsider the motion appropriating \$1,500 for expenses of directors. Motion carried.

Mr. Davenport moved to lay the motion reconsidered on the table. Motion to table carried.

Mr. Davenport moved the adoption of the following resolution and asked for roll call:

Resolved, That the following amounts, or so much thereof as may be necessary for the respective purposes herein named, be appropriated for the several uses for the ensuing year:

For expenses of State Institute meeting.....	\$200 00
For traveling libraries.....	500 00
For salary of secretary.....	300 00
For salary of superintendent.....	1,200 00
For expenses of directors and committees.....	1,000 00
For postage, printing, expressage and miscellaneous purposes not otherwise enumerated.....	1,110 00
Total.....	\$4,310 00

Those voting aye: Beal, Coolidge, Davenport, Dunlap, Grout, Lindemann, Mills, Moore, Shank, Steenberg, Willmarth. Nays, none. Ayes, 11; nays, none. Motion adopted.

Mr. Dunlap moved that an appropriation of \$50 be made for an Institute meeting in the Third Congressional District. Motion carried. Ayes, 11; nays, none.

Mr. Shank moved that the secretary be instructed to ask the State Board of Agriculture for a room for headquarters for the Illinois Farmers' Institute on the State Fair Grounds during the State Fair. Motion carried.

Mr. Mills moved to adjourn, subject to the call of the president. Motion carried.

A. B. HOSTETTER,
Secretary.

G. A. WILLMARTH,
President.

INSTITUTE ROOM, STATE HOUSE,
SPRINGFIELD, ILL., July 27, 1899.

The executive committee met on call of the President. Roll call showed the following members present: President Willmarth, Directors King, Lindemann and Shank.

Minutes of meeting of June 28 and 29, 1899, were read and approved.

The chairman stated that on making a comparison of the bond given by Treasurer A. P. Grout on March 13, 1899, with previous bonds, that it was thought best to secure the opinion of the Attorney General upon the same, and that such opinion had been received and a new bond secured in accordance therewith.

The secretary then read the opinion of the Attorney General and the bond of A. P. Grout, as follows:

July 12, 1899.

Hon. G. A. Willmarth, President Illinois Farmers' Institute, Springfield, Ill.

DEAR SIR:—I have examined the bond given by Albert P. Grout, of date March 13, 1899, and am of the opinion it is not sufficient in form. It should have run to the Illinois Farmers' Institute as a corporation, instead of to the board of directors of that Institute, and I would recommend that he be required to execute a new bond, and have prepared and herewith present one that I consider sufficient for the purpose.

I remain, very respectfully,

E. C. AIKIN,
Attorney General.

KNOW ALL MEN BY THESE PRESENTS, that we, Albert P. Grout, as principal, and William Neat, Charles H. Condit and Joseph V. Carpenter, as sureties, all of the County of Scott and State of Illinois, are held and firmly bound unto the Illinois Farmers' Institute, a public corporation of this State, in the penal sum of twenty thousand (\$20,000) dollars, lawful money of the United States, to be paid to the said Illinois Farmers' Institute, for the payment of which, well and truly to be made, we bind ourselves, our heirs, executors and administrators, jointly, severally and firmly by these presents.

Signed with our hands and sealed with our seals this 17th day of July, A. D. 1899.

THE CONDITION OF THE FOREGOING OBLIGATION IS SUCH, that,

WHEREAS, the above bounden Albert P. Grout was, on the 28th day of February, 1899, duly elected Treasurer of said Illinois Farmers' Institute, for the period of one year expiring February 28, A. D. 1900, and required to give bond in the penal sum of \$20,000; and,

WHEREAS, the said Albert P. Grout did, on the 13th day of March, A. D. 1899, execute bond in the said sum of \$20,000, with C. H. Condit, Wm. Neat and Joseph V. Carpenter as sureties thereon, which said bond run to the Board of Directors of the Illinois Farmers' Institute as obligees therein instead of to the said Illinois Farmers' Institute, and was in other respects inadequate and insufficient; and,

WHEREAS, the said Albert P. Grout has been required and is required by the Board of Directors of the said Illinois Farmers' Institute to execute another bond in the penal sum of \$20,000, running to the said Illinois Farmers' Institute as obligee therein and with conditions as hereinafter provided, with which requirement the said Albert P. Grout by this obligation voluntarily complies.

NOW THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the said Albert P. Grout shall faithfully perform and discharge the duties of his office as Treasurer of the said Illinois Farmers' Institute, and safely keep all money and other property entrusted to his care as Treasurer, paying the same out when ordered by the Board of Directors of the Illinois Farmers' Institute, and performing all duties required of him as such Treasurer by the Board of Directors of the said Illinois Farmers' Institute, and at the expiration of his term of office as such Treasurer pay over to his successor in office, when appointed and qualified, or to such other person or persons as the Board of Directors of said Illinois Farmers' Institute may direct or require, all moneys and other property then remaining in his hands as such Treasurer, then this obligation to be void, otherwise to remain in full force and virtue.

A. P. GROUT,	(Seal.)
WILLIAM NEAT,	(Seal.)
CHARLES H. CONDIT,	(Seal.)
JOS. V. CARPENTER.	(Seal.)

STATE OF INDIANA, }
 WANEN COUNTY. } ss.

Before me, Baltzer C. Kramer, a Notary Public in and for said county, this day appeared Albert P. Grout, and to me personally known to be the person whose name is signed to the foregoing instrument in writing, and acknowledged that he executed the same for the uses and purposes therein stated.

Given under my hand and official seal this 17th day of July, A. D. 1899.

BALTZER C. KRAMER,

(Seal.)

Notary Public.

Commission expires November 28, 1900.

STATE OF ILLINOIS, }
 SCOTT COUNTY. } ss.

Before me, Alonzo Ellis, a Notary Public in and for said county, this day appeared William Neat, Charles H. Condit and Jos. V. Carpenter, to me personally known to be the persons whose names are signed to the foregoing instrument in writing, and acknowledged that they executed the same for the uses and purposes therein stated.

Given under my hand and notarial seal this 18th day of July, A. D. 1899.

ALONZO ELLIS,

(Seal.)

Notary Public.

Mr. King moved that the bond be approved and placed on file. Motion adopted.

Mr. King moved that the president be instructed to return the bond given by Treasurer A. P. Grout on the 13th day of March, A. D. 1899. Motion adopted.

On motion a recess was taken until 1:30 p. m.

INSTITUTE ROOM, 1:30 P. M.

Committee met as per adjournment, same members present as at the morning session.

Mr. Lindemann moved that it is the sense of this committee that the president of the Illinois Farmers' Institute assist any director when called upon by such director at any time in furthering the best interests of the Institute work. Motion carried.

The secretary reported a general plan and specifications for traveling libraries, except the books to be used.

Mr. Lindemann moved that the executive committee approve the general plan and recommend that the sub-committee on library be authorized to purchase one complete library and equipment as a sample of what can be done. Motion carried.

Mr. King moved that it is the sense of the executive committee that the interests of the Institutes would be promoted by the committee meeting at other places than Springfield and recommend, if expedient, that the chairman call the next meeting of the committee at Paris, Illinois. Motion carried.

The following bills were presented and audited:

To the Board of Directors of the Illinois Farmers' Institute:

The undersigned members of the executive committee, having duly examined the claims of the parties named below, have approved the same and recommend that warrants in payment of said vouchers be drawn to the order of the respective claimants for the following amounts:

875	G. H. Gurlier, expenses as director.....	\$17 45
876	S. N. King	9 59
877	S. Noble King, " "	12 00
878	G. A. Willmarth, " "	27 98
879	C. E. Foster, expenses delegate 12th district conference	5 55
880	A. Allen Francis, " "	2 50
881	O. W. Barnard, " "	2 90
882	F. I. Mann	6 84
883	A. B. Hostetter, postage	5 25
884	S. Noble King, expenses as director	7 65
885	D. H. Shank	13 46
886	Chas. J. Lindeman, " "	16 85
887	G. A. Willmarth, " "	20 83
Total.....		\$148 88

Approved July 27, 1899.

G. A. WILLMARTH,
C. J. LINDEMANN,
S. NOBLE KING,
D. H. SHANK.

On motion adjourned to meet at call of chairman.

Read and approved September 1st.

A. B. HOSTETTER,
Secretary

G. A. WILLMARTH,
President.

PARIS HOTEL, PARIS, ILL., Sept. 1, 1898.

The executive committee met as per adjournment, on call of the chairman.

Present: Chairman Willmarth, Directors Kimzey, King, Lindemann and Secretary Hostetter. Director Shank was sick, confined to his bed, and could not be present.

The minutes of the meeting of July 27, 1899, were read and approved.

The secretary presented the following names of parties recommended by Director D. H. Shank for appointment to scholarships in the college of agriculture from the 19th district.

D. O. Benson, McKeen, Clark co.; Elmer Ashbrook, Charleston, Coles co.; C. W. Langhead, Flat Rock, Crawford co.; Golden Brewer, Toledo, Cumberland co.; F. J. Fessant, Sanford, Ind., Edgar co.; Susan Bernhart, Shumway, Effingham co.; Frank A. Loy, Effingham, substituted for Richland county, which had no applicant.

Director G. A. Willmarth recommended the following from the 11th district:

Robert M. Bowers, Odell, Livingston co.; Lawrence D. Prescott, Mendota, La Salle co.; E. W. Wright, Eureka, Woodford co.

Director Charles J. Lindemann recommended the following for Lake county and the 7th Congressional district:

George T. Hudson, Grays Lake, Lake co., (P. O.) Fort Hill; Henry D. Scudder, 1673 Berry Ave., Chicago.

Director Kimzey recommended the following from the 21st district:

John G. Beckmeyer, Buxton, Clinton co.; L. Willie Kennedy, Oakdale, Washington co.; Gustav Herman Eidman, Mascoutah, St. Clair co.

Director Kimzey moved that the recommendations be approved and that the several parties named be appointed to the scholarships in the College of Agriculture from their respective counties.

Motion adopted.

Director Kimzey moved that the secretary be instructed to write to the directors of the Illinois Farmers' Institute at once requesting them to send in the names of their awards for scholarships to the College of Agriculture on or before September 10, 1899. Motion adopted.

Director Kimzey moved that the president and secretary be and are hereby empowered to sign all appointments for scholarships recommended by the respective directors of the Illinois Farmers' Institute sent in, without convening the executive committee. Motion adopted.

The claim of the Carroll County Farmers' Institute for the expenses of an Institute meeting held at Oakville, June 22 and 23, 1899, was presented by the secretary for payment.

Director King moved that the chairman be instructed to write and explain to the officers of the Carroll County Institute that the question of paying this claim had been previously acted upon by the executive committee and it was decided, after full investigation, that although the Institute was properly held, the Carroll County Institute had already drawn from the State Institute fund all that it was entitled to for the year ending June 30, 1899, appropriated by the Act of 1897, and that there is, therefore no fund on hand from which to pay this claim. Motion adopted.

The chairman presented the following letters from Charles Truax, president of the Chicago Autumn Festival.

CHICAGO, October 17, 1899.

G. A. WILLMARTH, Esq.,

President Illinois Farmers' Institute, Seneca, Ill.

MY DEAR SIR:—Pursuant to a resolution adopted by the General Committee of the Chicago Autumn Festival, I beg to extend an invitation to the Illinois Farmers' Institute to hold a convention in Chicago sometime during the dates of the festival, October 4 to 11, 1899.

The President of the United States, the President of Mexico, Governor-General of Canada, Admiral Dewey and other distinguished men of the United States and other nations will undoubtedly be present during the festival days, and it is the sense of the General Committee that your organization should join with the citizens of Chicago in tributes of respect to these eminent guests of our people.

An early reply indicating your affirmative decision is earnestly hoped for.

Very truly yours,

CHARLES TRUAX,

President.

CHICAGO, August 31, 1899.

G. A. WILLMARTH, Esq., Paris, Ill.

DEAR SIR:—Referring to my recent letter to you requesting you to call a meeting of the members of your association in this city during the coming autumn festival, I would suggest that in addition you forward invitations to the executive officers of similar organizations in adjoining States. I make this request for the reason that if it be found desirable that your association unite with us in a festival in 1900, you may, if you so elect, extend such invitations to adjoining states to either act conjointly with you or to make an exhibit under the auspices of your association.

Trusting this will meet with your favor and assuring you of our coöperation, I remain,

Very truly yours,

CHARLES TRUAX.

Director Lindemann moved that the executive committee accept the invitation and extend the thanks of the Illinois Farmers' Institute for the same. Motion adopted.

Mr. King was called to the chair and Mr. Willmarth moved that a committee of three, consisting of Directors Sara Steenberg, Charles A. Dolton and C. J. Lindemann, be appointed to secure headquarters for the Institute workers of Illinois and other States in Chicago during festival week, the same to be without expense to the Illinois Farmers' Institute. Motion adopted.

Director Kimzey moved that the secretary be instructed to inform the several directors of the Illinois Farmers' Institute and the officers of County Institutes of the invitation to meet at the Institute headquarters during the autumn festival in Chicago, October 4 to 11, 1899. Motion adopted.

Director Lindemann moved that the officers of County Farmers' Institutes and the Institute workers of the State be invited to meet in conference on Thursday, September 28, 1899, at 9:30 a. m. in the assembly room of the dome building on the Illinois State fair grounds. Motion adopted.

The following bills were presented and audited:

To the Board of Directors of the Illinois Farmers' Institute:

The undersigned members of the executive committee, having duly examined the claims of the parties named below, approve the same and recommend that warrants in payment of said vouchers be drawn to the order of the respective claimants for the following amounts:

888 American Express Company, July account.....	\$8 22
889 Coe Bros., office supplies	2 00
890 A. B. Hostetter, postage and drayage.....	4 75
891 Charles F. Mills, expenses as director.....	6 00
892 U. S. Express Company, July account.....	1 17
893 Western Union Telegraph Company, July account.....	2 65
894 A. B. Hostetter, salary secretary and superintendent, for July	125 00
895 E. J. Todd, janitor services.....	3 00
896 Adams Express Company, July account.....	35
897 W. L. Wilson, newspaper filing case.....	8 00
898 The Gazette, Champaign, printing, D. S. Association.....	3 75
899 Emma J. Davenport, secretary D. S. Association.....	15 00
900 Treasurer Whiteside County Institute.....	50 00
901 Treasurer Whiteside County Institute, State speakers.....	15 65
902 The Edw. F. Hartman Co., printing and postage	100 90
903 J. H. Coolidge, expenses as director	72 74
904 G. A. Willmarth	20 75
905 Chas. J. Lindemann	13 32
906 D. H. Shank	24 77
907 S. Noble King	8 26
908 Walter R. Kimzey	60 36
909 Charles J. Lindemann	20 30
910 A. B. Hostetter, expenses executive committee at Paris.....	9 17
911 G. A. Willmarth, expenses as director.....	26 72
912	12 50
	\$605 33

Approved September 1, 1899.

G. A. WILLMARTH,
S. NOBLE KING,
WALTER R. KIMZEY,
CHARLES J. LINDEMANN,
Committee.

Read and approved September 28.

On motion adjourned.

A. B. HOSTETTER,
Secretary.

G. A. WILLMARTH,
President.

INSTITUTE HEADQUARTERS,
ILLINOIS STATE FAIR GROUNDS, Sept. 27, 1899.

The board met as per call of the president. Roll call showed the following members present: President Willmarth and Directors Beal, Burroughs, Clark, Dean, Dolton, Easterly, Frake, Kimzey, King, Mills, Stewart and Wilson.

Director Frake announced that Director C. J. Lindemann had been taken suddenly ill at the Leland Hotel on Tuesday night and that he had died at two o'clock Wednesday morning. He suggested that the board suspend business for the morning and that a committee be appointed to assist Mrs. Lindemann in the funeral arrangements.

Director Burroughs moved that the entire board be a committee to attend the remains of Director Lindemann to the depot enroute for his home in Chicago. The president appointed Director Kimzey to act as a committee in conjunction with a committee of one from the State Board of Agriculture to accompany the remains of Director Lindemann to Chicago.

Director Frake moved that a committee of three be appointed by the chair, from which he desired to be excused, to draft resolutions of respect for Director Charles J. Lindemann. Motion adopted.

The president appointed Directors Goodwin, Mills and King as such committee.

On motion of Director King the board adjourned to meet in the Institute rooms in the State House, at 8:30 p. m.

INSTITUTE ROOMS, 8:30 P. M.

The board met as per adjournment. Present—President Willmarth and Directors Beal, Burroughs, Clark, Dean, Dolton, Dunlap, Easterly, Frake, King, Mann, Moore, Steenberg, Wilson.

Minutes of the meetings of the board of June 27 and 28, 1899, were read and approved.

The minutes of the executive committee of June 29, 1899, July 27th, and September 1st, were also approved.

Director Dolton presented each member of the board with a complimentary ticket from the State Board of Agriculture to attend the State Fair.

Director King moved that the board extend a vote of thanks to Director Dolton and the State Board of Agriculture for the courtesy. Motion adopted.

Director Wilson, chairman of the committee on State Institute meeting, reported progress in the arrangement of program for the meeting at Mt. Vernon, and stated that nearly all of the parties invited to prepare papers for that occasion had accepted the invitation.

Mrs. Steenberg, chairman of the committee to arrange for headquarters for the Institute officers of Illinois and other states in Chicago during the autumn festival, reported that headquarters had been secured in the parlors of the Tremont House, corner Dearborn and Lake Streets, where visitors would be received and accommodated with stationery, mail facilities, a place to rest and become acquainted.

She recommended securing a sign for the headquarters and badges for Institute delegates and an attendant to take charge of the rooms.

Director Wilson moved that the secretary be instructed to send the quota of annual reports to which each county is entitled, to the secretary of each County Institute, unless otherwise ordered by the director of the district. Motion adopted.

On motion board adjourned to meet with conference of Institute officers in the assembly room of the dome building, State fair grounds, at 9:30 Thursday morning.

STATE FAIR GROUNDS,
September 28, 1899, 9:30 a. m.

The conference was called to order by President Willmarth, who asked the Superintendent of Institutes to state the objects of the meeting.

Superintendent Hostetter said the meeting was an informal one, for the purpose of the Institute officers and speakers becoming acquainted with each other and for the discussion of any questions that might be presented for the promotion of the Institute work.

Short talks were made by J. L. Hartwell, of Dixon; Fred Rankin, of Athens; Dr. R. C. Morris, of Olney; Oliver Wilson, of Magnolia; Alfred Bayliss, Superintendent of Public Instruction; Mrs. S. Noble King, of Bloomington; James Frake, of Chicago; Representative Abbott, of Whiteside County; Mr. Spies, of St. Jacobs.

Full one hour and a half was spent in an interchange of ideas, after which the board adjourned.

Read and approved, Feb. 27, 1900.

A. B. HOSTETTER,
Secretary.

G. A. WILLMARTH,
President.

INSTITUTE ROOM,

September 28th, 8:00 o'clock, P. M.

The committee met on call of Chairman Willmarth. Present, Directors Willmarth, Beal, Kimzey, King, and Secretary Hostetter.

Minutes of meeting at Paris, September 1st, read and approved.

Mr. Kimzey moved that the bill of the Illinois State Journal be referred back for a statement of account. Motion adopted.

Mr. Kimzey moved that Chairman Willmarth be appointed a committee of one to have charge of the Farmers' Institute Headquarters at Chicago during the autumn festival from the 7th to the 11th of October, inclusive. Motion adopted.

Mr. Beal moved that the secretary be instructed to have badges printed for Illinois Institute delegates. Motion adopted.

Mr. Kimzey moved that in case a director has application for scholarships to the State College of Agriculture, after all his own appointments are full, he shall report the names and addresses of such applicants to the secretary of the State Institute, who shall at once correspond with some director whose quota is not full, and upon his written consent, the Executive Committee shall apportion scholarships to said counties. Motion adopted.

Mr. Beal moved that one thousand copies of the fourth annual report of the Illinois Farmers Institute be retained for the use of the office of the secretary, and the others be sent to the directors or counties, *pro rata*, as per the action of the board of directors. Motion adopted.

Mr. Beal moved that the committee accept the sample set of books for the Institute Free Library and allow the bill of A. C. McClurg for same. Motion adopted.

Chairman Willmarth announced the appointment of James Frake to fill the vacancy on the committee for the autumn festival in Chicago, caused by the death of Director Charles J. Lindemann. Motion adopted.

The following bills were presented and audited:

To the Board of Directors of the Illinois Farmers' Institute:

The undersigned members of the executive committee, having duly examined the claims of the parties named below, have approved the same and recommend that warrants in payment of said vouchers be drawn to the order of the respective claimants for the following amounts:

913	S. Noble King, expenses as director.....	\$7 80
914	A. B. Hostetter, postage for September, 1899.....	5 75
915	Adams Express Company, for August, 1899.....	44
916	Runder Trunk Co., case for free library.....	2 35
917	American Express Co.....	50
918	H. W. Doenges, mailing tubes.....	2 00
919	A. B. Hostetter, salary as secretary and superintendent for August, 1899.....	125 00
920	The Wagoner Printing Co., printing.....	10 36
921	A. C. McClurg & Co., books for free library.....	22 97
922	Treasurer Macon County Farmers' Institute, C. H. Scott, Mt. Zion.....	50 00
923	Amos F. Moore, expenses as director.....	21 02
924	Oliver Wilson,	15 77
925	F. I. Mann,	8 35
926	H. M. Dunlap,	4 50
927	G. W. Dean,	30 20
928	E. W. Burroughs,	28 60
929	.....	8 45
930	W. R. Kimzey, special committee, Lindemann.....	14 25
931	W. R. Kimzey, expenses as director.....	25 04
932	Sara Steenberg,	28 45
933	H. G. Easterly,	32 75
934	L. N. Beal,	24 23
935	John M. Clark,	10 65
936	James Frake,	15 00
937	G. A. Willmarth,	20 55
938	.....	24 75
Total.....		\$534 73

Approved September 28th, 1899.

G. A. WILLMARTH,
L. N. BEAL,
WALTER R. KIMZEY,
S. NOBLE KING.

On motion of Director Kimzey the committee adjourned.

Read and approved November 28, 1899.

G. A. WILLMARTH,

A. B. HOSTETTER,

President.

Secretary.

INSTITUTE ROOM, STATE HOUSE, Nov. 28, 1899.

The executive committee of the Illinois Farmers' Institute met as per call of Chairman Willmarth. Roll call showed the following members present: Chairman Willmarth, Directors Beal, Dolton, Kimzey and King. Absent: Director Shank, on account of illness.

Minutes of meeting of September 28, 1899, were read and approved.

Director Kimzey moved that the secretary be instructed to prepare a circular letter to be sent by each director to each paper in his district speaking of the number of counties yet entitled to free scholarships at the College of Agriculture, and urging that all desiring scholarships make application at once so as to receive their appointment ready to enter school January 1, 1900. Motion adopted.

Director King moved that the library committee be authorized to procure five sets of books for the Institute Free Library as per the bid of Frank Simmons for \$96.80 for the five sets. Motion adopted.

Director Kimzey moved that the secretary be instructed to prepare blank credentials for county delegates to the State Farmers' Institute and that he send three blank credentials to the secretary of

each county to be properly filled and sent by the county secretary to the respective delegates of his county. That tinted colored duplicate credentials also be sent to be returned to the secretary of the Illinois Farmers' Institute. Motion adopted.

Director Kimzey moved that the four thousand (4,000) copies of the annual report of State Farmers' Institute No. 4, be divided as follows: Thirty volumes to be distributed to each county, and in addition forty copies to each director, to be used as he may deem best. Motion adopted.

Director Kimzey moved that the secretary have two hundred (200) receipts printed on postal cards, one receipt to be inclosed with each warrant sent out by the secretary. Motion adopted.

Director Kimzey moved that a committee of three be appointed, of which the chairman shall be a member, to make arrangements for having the program of the State Institute printed and ready for distribution by January 15, 1900, and asked that he be excused from being a member of that committee. Motion adopted.

The chair appointed Director King and Secretary Hostetter to act with him as such committee.

To the Board of Directors of the Illinois Farmers' Institute:

The undersigned members of the executive committee, having duly examined the claims of the parties named below, have approved the same and recommend that warrants in payment of said vouchers be drawn to the order of the respective claimants for the following amounts:

939	Treasurer Pope County Farmers' Institute, H. W. Wellman, Golconda.....	\$75 00
940	.....	14 24
941	Treasurer Saline County Farmers' Institute, Thos. E. Webber, Galatia.....	55 80
942	Treasurer Union County Farmers' Institute, D. W. Karaker, Jonesboro.....	6 75
943	..... for E. Davenport, speaker.....	15 00
944	..... for J. W. Stanton, Richview.....	5 00
945	Treasurer Moultrie County Farmers' Institute, Harmon Huffman.....	75 00
946	.....	19 00
947	Treasurer Henderson County Farmers' Institute, David A. Whiteman.....	72 51
948	Treasurer Clay County Farmers' Institute, A. E. Shinn, Flora.....	57 50
949	Treasurer Hancock County Farmers' Institute, C. N. Dennis, Hamilton.....	49 33
950	Treasurer Woodford County Farmers' Institute, Geo. S. Shuman, El Paso.....	75 00
951	.....	2 04
952	Treasurer Livingston County Farmers' Institute, J. R. Strawn.....	75 00
953	.....	41 86
954	Treasurer Bureau County Farmers' Institute, E. A. Washburn, Princeton... ..	75 00
955	.....	20 00
956	Treasurer Clinton County Farmers' Institute, John Newkirk, Carlyle.....	58 50
957	Treasurer Brown County Farmers' Institute, Robt. Bloomfield.....	33 54
958	Treasurer Sangamon County Farmers' Institute, L. H. Coleman.....	75 00
959	.....	20 00
960	Treasurer Johnson County Farmers' Institute, D. W. Mathis, Vienna.....	34 25
961	Treasurer Jackson County Farmers' Institute, Ed. Worthen, Murphysboro..	60 50
962	Treasurer Wabash County Farmers' Institute, I. W. Jaques, Mt. Carmel.....	75 00
963	.....	20 00
Total.....		\$1,110 34

Approved November 28, 1899.

G. A. WILLMARTH,
S. NOBLE KING,
L. N. BEAL,
WALTER R. KIMZEY.
CHARLES H. DOLTON,

To the Board of Directors of the Illinois Farmers' Institute:

The undersigned members of the executive committee, having duly examined the claims of the parties named below, have approved the same and recommend that warrants in payments of said vouchers be drawn to the order of the respective claimants for the following amounts:

964	Treasurer Schnyler County Farmers' Institute, J. W. Whitson.....	\$71 82
965	Shelby County Farmers' Institute, Wm. Middleworth	59 71
966	Effingham County Farmers' Institute, L. P. Mantz	75 00
967	.....	19 97
968	Hamilton County Farmers' Institute, John C. Hall.....	75 00
969	.....	20 00
970	Wayne County Farmers' Institute, A. R. McDaniel.....	75 00
971	.....	20 00
972	Franklin County Farmers' Institute, C. Moore.....	75 00
973	.....	20 00
974	Hardin County Farmers' Institute, Ed. Schneider	75 00
975	.....	19 00
976	Jefferson County Farmers' Institute, L. N. Beal	75 00
977	.....	20 00
978	Adams County Farmers' Institute, E. S. Frank.....	64 48
979	Livingston County and Cong. balance, J. R. Strawn	14 95
980	Adams County Farmers' Institute of 1898, E. S. Frank.....	20 00
Total.....		\$799 98

Approved November 28, 1899.

G. A. WILLMARTH,
CHARLES H. DOLTON,
WALTER R. KIMZEY,
L. N. BEAL,
S. NOBLE KING.

To the Board of Directors of the Illinois Farmers' Institute:

The undersigned members of the executive committee, having duly examined the claims of the parties named below, have approved the same and recommend that warrants in payment of said vouchers be drawn to the order of the respective claimants for the following amounts:

981	Runder Trunk Co.....	\$3 45
982	Western Union Telegraph Co	78
983	John Underfanger.....	35
984	A. B. Hostetter, expenses as superintendent.....	6 94
985	A. C. McClurg & Co., books.....	85
986	Adams Express Co	4 85
987	Ed. F. Hartman Co., printing, etc.....	81 40
988	L. N. Beal, expenses as director.....	23 10
989	E. W. Burroughs, expenses as director.....	11 85
990	The Quincy Journal, printing	4 50
991	American Express Co	1 95
992	A. B. Hostetter, salary for September and October, 1899.....	250 00
993	E. Davenport, expenses as director.....	4 55
994	G. A. Willmarth	31 60
995	A. B. Hostetter, postage, secretary' office	14 75
996	E. J. Todd, janitor service.....	2 00
998	W. R. Kimzey, exsenses as director.....	45 29
998	S. Noble King	6 64
999	Chas. H. Dolton	8 55
1000	G. A. Willmarth	15 75
		\$519 15

Approved November 28, 1899.

G. A. WILLMARTH,
CHARLES H. DOLTON,
S. NOBLE KING,
L. N. BEAL,
WALTER R. KIMZEY,

Mr. Beal moved that when the executive committee adjourn it be to meet on call of the chairman at Mt. Vernon, Ill., to help work up the local interest in the State Institute. Motion adopted.

There being no other business, on motion of Director —— the committee adjourned.

Read and approved December 19, 1899.

G. A. WILLMARTH,
President.

A. B. HOSTETTER,
Secretary.

MT. VERNON, ILL., Dec. 19, 1899.

The executive committee of the Illinois Farmers' Institute met as per adjournment in the parlors of the Mahaffy House, at 8 o'clock p. m. Roll call showed the following members present: Chairman Willmarth and Directors Beal, Dolton, Kimzey and Shank.

The minutes of the meeting of Nov. 28th, at Springfield, were read and approved.

On motion of Director Shank a recess was taken for the committee to attend a meeting of the citizens of Mt. Vernon, called for the purpose of perfecting the local organization for promoting the State Institute, to be held at Mt. Vernon, Feb. 20, 21, 22, 1900.

The committee convened again at 10 o'clock p. m.

Director Wilson, chairman of the sub-committee on local arrangements for the State meeting, reported that the citizens of Mt. Vernon had appointed all the local committees required by the board of directors and were disposed to fulfill all the requirements for the State meeting with enthusiasm and enterprise.

Chairman Willmarth, of the sub-committee to print the programs of the State meeting, reported that the committee after due consideration and correspondence with parties who make a business of securing advertising for such publications, have decided to report that the programs be published without any advertising foreign to Institute matters.

That the program be embellished with the pictures of the officers of the Illinois Farmers' Institute, the officers of the Domestic Science Association, and the presiding officers. Also that cuts representing the College of Agriculture and the Institute Free Library be used on the cover pages.

Director Kimzey moved that the report of the committee on publication of program be accepted, except that the pictures of the presiding officers for the several sessions be omitted. Motion adopted.

The secretary presented bids for the printing of 5000 programs of the State meeting.

Director Dolton moved that as the bid of Edw. Hartman Co. of \$65.00 for 5000 24-page booklets and \$10.00 per 1000 for each additional 1000, was the lowest and best bid, that the contract be let to them. Motion adopted.

Director Dolton stated that he would like to hold an Institute in his district and asked that \$70.00 granted for Congressional Institutes be given for a meeting in his district.

Director Beal moved that the request of Mr. Dolton be deferred till the next meeting of the executive committee. Motion adopted.

Mr. Beal moved that the president be authorized to draw warrants for the payment of books for the Institute Free Library recommended by the library committee, so as to take advantage of the cash discounts. Motion adopted.

Director Kimzey moved that the secretary be instructed to prepare a letter to be mailed by each director to the papers of his district calling attention to the State meeting at Mt. Vernon and the program of same. Such letters to be sent to the directors by the first day of February. Motion adopted.

Director Shank moved that the secretary be instructed to have 1,000 posters printed for advertising the State meeting. Motion adopted.

The following bills were presented, audited and warrants ordered drawn in payment of the same.

To the Board of Directors of the Illinois Farmers' Institute:

The undersigned member of the executive committee, having duly examined the claims of the parties named below, have approved the same and recommend that warrants in payment of said vouchers be drawn to the order of the respective claimants for the following amounts:

1001	Treasurer, Pulaski County Farmers' Institute.	H. L. McGee.....	\$72 10
1002	Monroe	P. A. Naus	67 00
1008	.. Randolph	Thos. L. McMillen.....	75 00
1004	.. ..	.....	2 08
1005	.. McDonough	William Webb.....	41 05
1006	.. Marshall	M. J. French.....	75 00
1007	.. ..	.....	2 58
1008	.. Marion	A. J. Harvey	75 00
1009	.. ..	.....	20 00
1010	.. Lawrence	Mrs. J. R. King.....	74 50
1011	.. St. Clair	George Daab.....	75 00
1012	.. ..	.....	20 80
1013	.. Jasper	A. A. Nees.....	69 75
1014	.. Morgan	R. S. Wood.....	75 00
1015	.. ..	.....	19 16
1016	.. Bond	F. Dresser.....	66 09
1017	.. Madison	Lee S. Dorsey.....	75 00
1018	.. ..	.....	20 00
1019	.. Williamson	A. M. Townsend	75 00
1020	.. ..	.....	40 50
1021	.. Perry	John Lennen.....	75 00
1022	.. ..	.....	20 00
1023	.. Massac	J. F. McCartney	75 00
1024	.. ..	.....	13 66
Total.....			\$1,224 97

Approved December 20, 1899.

To the Board of Directors of the Illinois Farmers' Institute:

The undersigned members of the executive committee, having duly examined the claims of the parties named below, have approved the same and recommend that warrants in payment of said vouchers be drawn to the order of the respective claimants for the following amounts:

1025	Frank Simmons, free library books.....	\$101 35
1026	Edw. F. Hartman Co., printing.....	32 75
1027	Emma J. Davenport, for Domestic Science Association.....	10 00
1028	Phillips Brothers, printing.....	34 50
1029	American Express Co., expressage.....	1 65
1030	Adams Express Co., expressage.....	1 35
1031	United States Express Co., expressage.....	3 81
1032	Central Union Telephone Co.....	1 50
1033	Western Union Telegraph Co.....	50
1034	Rander Trunk Co., five library cases.....	12 75
1035	A. B. Hostetter, postage for secretary's office.....	9 00
1036	E. W. Burroughs, expenses as director.....	21 84
1037	Charles F. Mills,	10 95
1038	Eugene Davenport,	7 29
1039	Walter R. Kimzey,	4 12
1040	Charles H. Dolton	5 75
1041	Oliver Wilson	25 40
1042	L. N. Beal	43 84
1043	Mrs. L. N. Beal, expenses as speaker.....	5 00
1044	D. H. Shank, expenses as director.....	10 40
1045	G. A. Willmarth,	13 50
1046	A. B. Hostetter, expenses as secretary.....	13 90
1047	G. A. Willmarth, expenses as director.....	26 24
Total.....		\$397 39

Approved December 20, 1899.

G. A. WILLMARTH,
L. N. BEAL,
WALTER R. KIMZEY.

On motion of Director Shank the committee adjourned subject to the call of the chairman.

Read and approved January 15, 1900.

A. B. HOSTETTER,
Secretary.

G. A. WILLMARTH,
President.

BLOOMINGTON, ILL., Jan. 15, 1900,
Folsom Hotel, 7:30 o'clock P.M.

The executive committee met on call of the president. Roll call showed the following members present: President Willmarth and Directors Beal, King and Shank. Minutes of the meeting of the executive committee of Dec. 19th, 1899, at Mt. Vernon, were read and approved.

The secretary presented the reports of several County Farmers' Institutes and the request of Adams county, that the unpaid expenses of the Institutes held in Adams county last year, be allowed.

Director Beal moved that Adams county be allowed \$50.00 for the payment of the expenses of Institutes held in that county, as per reports of same. Motion adopted, all voting aye.

Director King moved that the report of Logan County Farmers' Institute held at Lincoln, be referred back to the secretary of same to be itemized before it can be audited. Motion adopted.

On motion of Director Beal, the committee adjourned till 8:30 o'clock a. m., to attend the evening session of the 13th Congressional District Institute, which was being held in Bloomington.

FOLSOM HOTEL, 8:30 A. M., Jan. 16, 1900.

Committee met as per adjournment. Present: President Willmarth and Directors Beal, King and Shank.

Director Beal moved that the number of programs of the State meeting at Mt. Vernon, be increased from 5000 to 7000 copies. Motion adopted.

Director Beal moved that \$20.00, unused by the 15th Congressional District Institute, be allowed Adams County Farmers' Institute for payment of speakers at a second meeting to be held in Adams county, or so much thereof as may be necessary for the payment of such expenses. Motion adopted.

Secretary Hostetter suggested that the next annual report, Vol. V., should contain illustrations showing the development of Agriculture in Illinois along the lines of live stock breeding, dairying, horticulture and general farm improvement, and recommended that a committee be appointed to take the matter under advisement.

Director Shank moved that in compliance with the recommendation of the secretary, a committee of three, of which the chairman shall be one, be appointed to consider the question of securing illustrations showing the development along agricultural, live stock and horticultural lines in Illinois, for publication in connection with the papers inserted in the annual report, Vol. V. Motion adopted.

The Chair appointed Directors King and Kimzey to act with him as such committee.

The following bills were presented, audited and ordered paid:

To the Board of Directors of the Illinois Farmers' Institute:

The undersigned members of the executive committee, having duly examined the claims of the parties named below, have approved the same and recommend that warrants in payment of said vouchers be drawn to the order of the respective claimants for the following amounts:

1048	Treasurer	Richland County Farmers' Institute,	Frank Britton	\$70 00
1049	"	Mason ..	Mrs. Lenna Peine	75 00
1050	"	" ..	" ..	9 38
1061	"	Stark ..	Wilber P. Snare	75 00
1062	"	" ..	" ..	20 00
1063	"	Macoupin ..	R. E. Chiles	75 00
1064	"	" ..	" ..	20 00
1065	"	Washington ..	John Meyer	75 00
1066	"	Scott ..	J. W. Taylor	75 00
1067	"	" ..	" ..	1 84
1068	"	Montgomery ..	W. A. Beatty	75 00
1069	"	County and 18th District Institute,	W. A. Beatty	70 00
1060	"	Christian County Farmers' Institute,	E. A. Vanderver	75 00
1061	"	and 17th District Institute,	E. A. Vanderver	70 00
1062	"	Pike County Farmers' Institute,	W. R. Wiley	75 00
1063	"	" ..	" ..	20 00
Total				\$871 70

Approved December 29, 1899.

(Signed)

G. A. WILLMARTH,
S. NOBLE KING,
D. H. SHANK,
L. N. BEAL.

To the Board of Directors of the Illinois Farmers' Institute:

The undersigned members of the executive committee, having duly examined the claims of the parties named below, have approved the same and recommend that warrants in payment of said vouchers be drawn to the order of the several claimants for the following amounts:

1064	Macpherson & Edwards, for library books.....	\$15 45
1065	A. C. McClurg & Co.,	84 26
1066	.. ..	102 20
1067	J. H. Monrad,	2 50
1068	John Underfanger, freight and drayage.....	2 30
1069	A. B. Hostetter, expenses as secretary and postage	23 25
1070	Western Union Telegraph Co.....	51
1071	Runder Trunk Co., for library cases.....	16 30
1072	Central Union Telephone Co.....	3 45
1073	Adams Express Co., expressage.....	1 90
1074	Coe Brothers, office supplies	5 00
1075	W. L. Park, photographing library	5 00
1076	J. H. Coolidge, expenses as director	34 03
1077	G. W. Dean,	12 25
1078	Oliver Wilson,	11 74
1079	L. N. Beal,	16 72
1080	Treasurer White County Farmers' Institute, Daniel Berry	75 00
1081	.. .. Edwards Loren Jack	75 00
1082	.. .. County and 20th District Institute, Loren Jack	47 25
1083	.. .. Adams County Farmers' Institute, Ed. S. Frank	50 00
1084	.. .. Calhoun William Mortland	75 00
1085	.. .. Fulton George Shawver	75 00
1086	.. .. County and 14th District Institute, George Shawver	51 91
1087	D. H. Shank, expenses as director	22 55
1088	G. A. Willmarth,	19 50
1089	L. N. Beal,	15 00
1090	S. Noble King,	7 73
1091	A. B. Hostetter, salary for November and December, 1899.....	250 00
1092	G. A. Willmarth, expenses as director	12 50
1093	.....	10 50
Total.....		\$1,120 79

Approved January 16, 1900.

(Signed)

G. A. WILLMARTH,
L. N. BEAL,
S. NOBLE KING,
D. H. SHANK.

On motion of Director Shank adjourned subject to the call of the chairman.

Read and approved February 10, 1900.

G. A. WILLMARTH,

A. B. HOSTETTER,

President.

Secretary.

INSTITUTE ROOM, STATE HOUSE, Feb. 10. 1900.

Committee met on call of chairman. The roll call showed the following directors present: President Willmarth, Directors King, Beal and Shank.

Minutes of meeting of January 15th at Bloomington read and approved.

Director Shank moved that the secretary be instructed to secure the exhibit of corn and corn products of Mr. ——— Dashiell, of Decatur, upon his terms of thirty dollars for the exhibit to be put up

and maintained during the meeting of the State Institute at Mt. Vernon; *provided*, the people of Mt. Vernon will furnish a suitable place for such exhibit. Motion adopted.

Director Beal moved that the secretary be instructed to inform the secretary of the Rock Island County Institute that the payment of the expenses of delegates to the State meeting is not a legitimate use of the Institute funds and was therefore deducted from the bill of expenses of Rock Island county. Motion adopted.

Mr. Beal moved that the secretary be instructed to have printed circulars advertising the railroad rates secured for the State meeting at Mt. Vernon. Motion adopted.

Director King moved that the secretary take one hundred annual reports to Mt. Vernon for distribution during the meeting. Motion adopted.

Mr. Shank moved that the chair appoint a committee of three to audit the secretary's and treasurer's accounts. Motion adopted.

The chair appointed as such committee Directors Kimzey, King and Beal.

The following bills were presented, audited and ordered paid:

To the Board of Directors of the Illinois Farmers' Institute:

The undersigned members of the executive committee having duly examined the claims of the parties named below, have approved the same and recommend that warrants in payment of said vouchers be drawn to the order of the respective claimants for the following amounts.

1094	Geo. I. Shuman & Co., library books.....	\$32 50
1095	Treasurer Winnebago County Farmers' Institute, D. W. Evans	75 00
1096	.....	20 00
1097	DeWitt County Institute, Charles Walker.....	75 00
1098	.....	20 00
1099	McLean County Institute, J. F. Moore.....	75 00
1100	McLean County Institute and 13th District, J. F. Moore.....	70 00
1101	Carroll County Institute and 9th District, John Simpson	75 00
1102	.....	70 00
1103	Greene County Institute, Ed. North.....	75 00
1104	.....	20 00
1105	Jersey County Institute, J. W. Becker.....	75 00
1106	.....	20 00
1107	Edgar County Institute, C. D. Smith.....	75 00
1108	.....	20 00
1109	Champaign County Institute, Z. R. Genung.....	75 00
1110	.....	1 90
1111	Will County Institute and 12th District, M. G. VanHorn	75 00
1112	.....	70 00
1113	JoDavless County Institute, R. A. Oliver.....	75 00
1114	Tazewell County Institute, John Betzelberger.....	74 73
1115	Lee County Institute, W. Badger.....	75 00
1116	.....	20 00
1117	Mercer County Institute, Elisha Lee.....	75 00
1118	.....	20 00
1119	Kendall County Institute, Alonzo Stanzel.....	75 00
1120	.....	20 00
1121	Cass County Institute, Chas. A. Gridley.....	75 00
1122	Cass County Institute and 16th District, Chas. A. Gridley.....	70 00
1123	Stephenson County Institute, F. B. Walker.....	75 00
1124	.....	20 00
1125	Iroquois County Institute, N. C. Center.....	75 00
1126	.....	20 00
1127	DuPage County Institute, James W. McKee.....	75 00
1128	.....	20 00
1129	Cumberland County Institute, Mrs. Alice Deep.....	75 00
1130	.....	11 64
1131	Crawford County Institute, Alex Dalsell.....	75 00
1132	Crawford County Institute and 19th District, Alex Dalsell	24 81
1133	Clark County Institute, Jos. Lutz.....	75 00
1134	.....	19 25

1185	Treasurer Kankakee County Institute, J. F. Schmeltzer.....	75	08
1186	..	10	59
1187	Menard County Institute, C. E. Smoot.....	75	00
1188	..	20	80
1189	Coles County Institute, H. F. Hill.....	75	00
1190	..	20	00
1191	Champaign County Institute, Z. R. Genung.....	18	10
1192	Ford County Institute, D. A. Taylor.....	75	00
1193	..	20	00
1194	Rock Island County Institute, L. B. Strayer.....	58	71
1195	Grundy County Institute, Fred Harford.....	43	45
1196	Jasper County Institute, A. A. Nees.....	3	25
1197	Crawford County Institute, Alex Dalzell.....	25	69
1198	Crawford County Institute and 19th District, D. H. Shank.....	14	20
1199	Adams Express Company.....	42	23
1200	American Express Company.....	37	61
1201	United States Express Company.....	20	97
1202	American Express Company.....	20	53
1203	John Underfanger.....	82	
1204	Frank Simmons, library books.....	33	35
1205	Macpherson & Edward, library books.....	29	85
1206	A. C. McClurg & Co., library books.....	43	63
1207	A. C. McClurg & Co., library books.....	10	97
1208	F. A. Kendall, library books.....	19	80
1209	United States Express Company.....	44	19
1210	Edw. F. Hartman Co., printing and postage.....	117	80
1211	7,000 programs.....	95	20
1212	A. B. Hostetter, postage.....	11	00
1213	Chas. Stevenson, packing reports.....	9	00
1214	Runder Trunk Company, 5 library cases.....	11	75
1215	A. B. Hostetter, expenses as secretary of executive committee.....	6	72
1216	Coe Brothers, office supplies.....	5	85
1217	Runder Trunk Company, 5 library cases.....	12	75
1218	Illinois Domestic Science Association.....	7	75
1219	S. Noble King, expenses as director.....	11	05
1220	..	11	61
1221	A. B. Hostetter, salary for January, 1900.....	125	00
1222	G. A. Willmarth, expenses as director.....	20	98
1223	L. N. Beal.....	20	75
1224	D. H. Shank,	16	02
1225	S. Noble King,	10	88
1226	G. A. Willmarth,	10	84
Total.....		\$3,497	82

Approved February 10, 1900.

G. A. WILLMARTH,
L. N. BEAL,
D. H. SHANK,
S. NOBLE KING,

The secretary made the following report in regard to the distribution of the annual reports, volume 4.

To the Members of the Executive Committee, Illinois Farmers' Institute:

I beg leave to report that in compliance with the instructions of the executive committee I have sent out reports as follows: 40 reports to each director. Total, 840; 30 to each of the secretaries of County Farmers' Institutes. Total 3,030; one copy to each of the eighty persons who have papers in the annual report; one to each of the thirty agricultural papers; one to each member of the State Board of Agriculture, officers of Dairyman's Association, Horticultural Society. Total, 50; one copy to each of the 102 County Superintendents of schools. Total, 4,132.

I also sent to each secretary thirty copies of the Institute Parliament Bulletin, and programs of the State Institute meeting at Mt. Vernon.

Respectfully submitted,

(Signed)

A. B. HOSTETTER,

Secretary.

Chairman Willmarth announced that the executive committee would convene again at Mt. Vernon at 8:30 p. m., Monday, February 19, 1900. And at the Institute room at 10:30 a. m., Monday, February 26, 1900.

On motion adjourned.

Read and approved, February 19, 1900.

A. B. HOSTETTER,
Secretary.

G. A. WILLMARTH,
President.

MT. VERNON, ILL., Feb. 19, 1900.
MAHAFFY HOUSE, 8:30 P. M.

The executive committee of the Illinois Farmers' Institute met as per adjournment. Present: Directors Beal, Kimzey, King, Shank and Chairman Willmarth. Minutes of the meeting of February 10, 1900, in the Institute room, Springfield, read and approved.

The chairman announced that the committee would remain in session during the State Institute meeting for the purpose of auditing bills and transacting such other business as might come before the committee. The following bills were presented and audited and ordered paid:

To the Board of Directors of the Illinois Farmers' Institute:

We, the undersigned members of the executive committee, have duly examined the claims of the parties named below, have approved the same and recommend that warrants in payment of said vouchers be drawn to the order of the respective claimants for the following amounts:

1177 J. H. Monrad, expenses speaker at State meeting.....	\$21 08
1178 H. B. Gurler,	25 23
1179 Mrs. Nellie Kedzie	12 75
1180 H. A. Aldrich,	7 95
1181 J. C. Blair,	9 40
1182 J. M. Dashiell, exhibit at State meeting.....	30 00
1183 J. W. Stanton, expenses as speaker at State meeting.....	5 00
1184 W. H. Fulkerson,	10 80
1185 Mrs. Rose Carr,	11 32
1186 Mrs. I. S. Raymond,	12 44
1187 Mrs. G. W. Shippy,	19 20
1188 Mrs. Joseph Carter,	12 10
1189 Henry M. Dunlap,	5 15
1190 Henry Wallace,	42 39
1191 J. H. Brigham,	35 00
1192 Mrs. M. L. Copeland,	5 98
1193 Mrs. H. M. Dunlap,	6 15
1194 Alfred Bayliss,	12 75
1195 The Register, Mt. Vernon, printing for State meeting.....	19 00
1196 A. B. Hostetter, expenses at State meeting.....	19 95
1197 Charles F. Mills, expenses at State meeting.....	20 52
1198 A. B. Hostetter, postage \$10.00, office supplies \$4.25.....	14 25
1199 D. H. Shank, expenses as director, State meeting.....	15 91
1200 S. Noble King,	19 00
1201 G. A. Willmarth,	28 77
1202 Henry Furgerson, janitor service.....	1 50
Total	\$425 38

Approved February 26, 1900.

G. A. WILLMARTH,
WALTER R. KIMZEY,
S. NOBLE KING,
L. N. BEAL,
D. H. SHANK,
Executive Committee.

To the Board of Directors of the Illinois Farmers' Institute:

The undersigned members of the executive committee, having duly examined the claims of the parties named below, have approved the same and recommend that warrants in payment of said vouchers be drawn to the order of the respective claimants for the following amounts:

1203	Treasurer LaSalle County Farmers' Institute, Mrs. L. G. Chapman.....	\$75 00
1204	" " " " " "	20 00
1206	" Lake County H. B. Pierce	75 00
1208	" " " " " "	20 00
1207	McHenry County H. T. Thompson	75 00
1209	" " " " " "	20 00
1210	Kane County Henry McCouch	75 00
1211	" Vermilion County Davis M. Fowler	20 00
1212	" " " " " "	5 75
1213	Douglas County John Barkey	75 00
1214	" " " " " "	20 00
1215	A. P. Grout, expenses as director.....	21 85
1216	Charles F. Mills, expenses as director.....	6 46
1217	Treasurer Warren County Farmers' Institute, T. T. McClanahan	75 00
1218	" " " " " "	1 90
1219	Boone County F. M. Leach.....	75 00
1220	" " " " " "	20 00
1221	Adams County E. S. Frank.....	10 52
1222	" " " " " "	20 00
1223	DeKalb County B. F. Wyman.....	75 00
1224	" " " " " "	20 00
1225	Alexander County Dr. John Sams.....	67 63
1226	Peoria County A. H. Yates	72 73
Total.....		\$1,021 84

Approved February 26, 1900.

G. A. WILLMARTH,
WALTER R. KIMZEY,
S. NOBLE KING,
L. N. BEAL,
D. H. SHANK.

Executive Committee.

On motion of Director Shank the committee adjourned to meet in Springfield February 26, 1900, at 1:30 p. m.

G. A. WILLMARTH,
President.

A. B. HOSTETTER,
Secretary.

INSTITUTE ROOM, Feb. 26, 1900, 1:30 P. M.

The executive committee of the Illinois Farmers' Institute met as per adjournment. Present—President Willmarth and Directors Beal, Kimzey, King and Shank.

The minutes of the meeting at Mt. Vernon, Feb. 20th to 22d, were read and approved. The bills and reports of County Institutes passed upon at Mt. Vernon were checked and approved.

Director Shank moved that a warrant be drawn for twenty-seven cents to the order of Dwight Herrick, for the balance of expenses in attending Institute conference to correct error in drawing warrant No. 718. Motion adopted.

On motion of Director Beal, the committee adjourned.

Read and approved, Feb, 27, 1900.

A. B. HOSTETTER,
Secretary.

G. A. WILLMARTH,
President.

INSTITUTE ROOM, STATE HOUSE,
February 27, 1900.

The board of directors of the Illinois Farmers' Institute met at 1:30 p. m., as per call in compliance with the statutes. President Willmarth in the chair. Roll call showed the following directors present: Bartlett, Beal, Burroughs, Coolidge, Davenport, Dean, Easterly, Frake, Grout, Gurler, Kimzey, King, Mann, Mills, Moore, Shank, Steenberg, Willmarth, Wilson. Total, 19.

The minutes of the board meetings of September 27 and 28, 1899, also the minutes of the meetings of the executive committee of September 28, November 28, December 19, 1899, January 15, February 10, February 19 and February 26, 1900, were read and approved.

Director Frake moved that the record of the executive committee and the actions of said committee be approved. Motion adopted.

Treasurer A. P. Grout submitted the following report:

WINCHESTER, ILL., Feb. 24, 1900.

To the Honorable Board of Directors of the Illinois Farmers' Institute:

Statement of receipts and orders paid by A. P. Grout, Treasurer of Illinois Farmers' Institute:

Received of.		Paid out.	
1899.		1900.	
June 24.	To balance on hand.....	Feb. 24.	By orders paid and returned herewith as per statement attached...
July 21.	State Treasurer.....		Balance on hand.....
Aug. 18.	" "		
Sept. 22.	" "		
Oct. 9.	" "		
Dec. 5.	" "		
1900.			
Jan. 5.	State Treasurer.....		
Feb. 8.	" "		
Feb. 23.	A. P. Grout.....		
Feb. 23.	State Treasurer.....		
Total.....	\$15,518 97	Total.....	\$15,518 97

The foregoing statement made by me, as treasurer, is respectfully submitted to the board of directors of the Illinois Farmers' Institute.

A. P. GROUT,
Treasurer.

Director Mills moved that the report of the treasurer be received and referred to a committee of three from the board for audit. Motion adopted.

The chairman appointed Messrs. Dean, Burroughs and Bartlett as such auditing committee.

The president announced that the next order of business would be the reports of special committees.

Under this head Director Mills, chairman of the committee to prepare resolutions on the death of Director C. J. Lindemann, submitted the following report:

WHEREAS, Charles J. Lindemann, late a director of the Illinois Farmers' Institute, was called from a wide field of usefulness by death, September 27, 1899; and,

WHEREAS, Our deceased friend and esteemed co-laborer, up to the date of his death, proved himself to be a very efficient and useful member of this organization; and,

WHEREAS, The Institute work of the State, by the death of our worthy associate, has been deprived of the services of an efficient director; therefore, be it

Resolved, That the Illinois Farmers' Institute esteem it a privilege and duty to bear testimony to the sterling character, public spirit and efficient services rendered by Mr. Charles J. Lindemann, and with whom we have been so pleasantly associated for years past.

Resolved, That we extend to the family and friends of the deceased a full measure of sympathy, in the death of our friend, and that we join with the promoters of our agricultural interests in sincere regrets at the death of a co-laborer in the early years of a useful life.

Resolved, That a copy of these resolutions be spread upon the records of this Board and a copy of the same be sent to the family of the deceased.

Respectfully submitted,

CHARLES F. MILLS,
S. NOBLE KING,

Committee.

On motion of Director Mrs. Sara Steenberg, the resolutions were adopted unanimously by a rising vote.

Director Mrs. Sara Steenberg, chairman of the committee to establish and maintain headquarters for the Farmers' Institute workers of the State in Chicago during the Autumn Festival, reported as follows:

I am not prepared to make a written report, but I will say, however, that the Hotel Tremont gave us a parlor and fixed it for the use of the farmers who would meet there. I think that over one hundred visitors came there during the three days of the festival. Instead of appointing or hiring some one to be there to entertain them it was agreed that President Willmarth should receive. During the week a National Association of Farmers' Institute workers was organized. We have received several letters since then commending the act and expressing the hope that great good will grow out of it. A gentleman from Mexico was added to the list of members, Mr. J. Yodoff. I have a letter from him stating that he considers it a great honor, and he thinks a great deal of international interest may be gained by such association between this country and Mexico.

On motion of Director Burroughs, the report of the committee was adopted.

The president announced that next order of business would be the reports of standing committees.

Under this head, Director Wilson, chairman of the committee on State Institute meetings reported as follows:

The committee has but a short report to make. The actions of the committee are on record up to the date of the State meeting and have been read in the minutes of the executive committee. I will state that the committee secured and carried out the program as published, with the exception of two numbers. Mr. Aaron Jones of South Bend, Ind., and Senator Charles A. Bogardus, of Paxton, who were both detained at home by sickness. We received word from them both about the time they were to speak, that they were ill,

and could not be present. It is the sense of the full committee that the board owe and should extend a vote of thanks to the citizens of Mt. Vernon for the universal interest they took in helping us to make the State meeting a success. The reception committee being at all times ready and willing to do anything that could be done to make the visitors comfortable and the meeting a success, which, the program committee think, it was.

Director King moved that the report of the committee be adopted and that a vote of thanks be extended to the citizens of Mt. Vernon for the manner in which they received and entertained the State Institute in their city. Motion adopted.

Director Charles F. Mills, chairman of the committee on Organizing Township Institutes, made the following report:

Your committee entered very actively upon its work and carried out the idea of President Willmarth and others in reference to Township Institute work throughout the State. We held a meeting at Chicago and adopted an outline of the work there, and commenced corresponding with the presidents of County Institutes and others interested in the matter, and had it well under way, and a great deal of enthusiasm manifested for the work, and we expected to have not less than one thousand Township Institutes held during the year, but just as we were getting started in the work a resolution was passed by the board that the directors should have nothing to do outside of their own districts, and that all this work should be done by the secretary, and the members who had been taking such an active interest in the matter were satisfied it was an invitation to step down and out and let the work be conducted by the secretary. From that time we have never held any meetings or taken any active steps in pushing the work as we intended to do. You remember I protested against appointing a committee, assigning duties, and then adopting a resolution taking the entire work out of the hands of the committee, which really makes our standing committee of no force whatever. They are to carry out their duties as outlined by the board that appoints them, as in the General Assembly, and Congress, and everywhere else where committees are appointed, certain duties are given them and they are made to carry them out.

I do not complain, but it was a matter I had very much at heart, and it was one of the measures I wanted to see extended during the year.

On motion of Director King the report was adopted.

Director J. H. Coolidge, chairman of the Committee to Select Speakers for County Institutes, reported as follows:

We instructed the secretary to write to the speakers recommended by the several directors to see if they would accept a proposition to speak at Farmers' Institutes and upon what terms. We took all the replies and went over them carefully, and selected those that we thought we could endorse as good speakers, experienced in their particular line, those whom we would not be ashamed to send to any Institute, and made a list of those. I think out of some two hundred written to about one hundred replied. From these replies we selected thirty to fifty, I can not remember the exact number, about fifty, and those were published, and so far as my district was concerned, each secretary had a list of those speakers from which to select. I have had in my district but one complaint, and that was not the fault of the speaker, I am satisfied. It was the fault of the executive committee of that particular Institute. They wanted a man to speak on horticulture and sent for a man from the lower half of the southern district of the State to speak about conditions with which he was familiar, but which were not applicable to the locality where the Institute was held. There was a great deal of dissatisfaction, but they were to blame for going outside of their latitude. I had a talk with these parties and showed them where they were wrong and they admitted their mistake.

On motion the report was adopted.

Director Davenport, chairman of the Committee on Agricultural Education and Library, reported as follows:

I will say that the work of this committee has been practically to the question of the library. Several meetings were held, I do not remember how many, and we discussed the question as to the best disposition of the library funds, and came to the unanimous conclusion that it would be better not to have in the State house, or any other central point in the State, a stationary library, because in these days libraries, if they are to be consulting reference libraries, are stupendous institutions, and a small library is good for nothing.

If we could secure library books, they would be most useful to the people if they could be moved about. The committee thought it would be a good experiment, at least, to buy a few books and pass them out among the people of the State. A report was made to the executive committee for approval, and they appointed a sub-committee to select the books. The secretary will tell in his report what has been done on this line. A number of circulating libraries have been established and are now in the hands of the people.

On motion of Director Mann the report was adopted.

Secretary Hostetter made the following report:

To the Honorable Board of Directors of the Illinois Farmers' Institute:

LADIES AND GENTLEMEN:—The report made by me as Superintendent of Institutes at the annual meeting at Mt. Vernon covered the general work of the Institute for the past year. It remains, therefore, to report only the work pertaining more especially to the office of the secretary. During the year beginning March 1st, 1899, reports have been received from 112 County Farmers' Institute meetings. Twenty-one of these were reports of meetings of Institutes held previous to March 1st, 1899.

In settlement of the expenses of these County and District Institutes, warrants were drawn on the treasurer payable from the several funds for the following amounts:

Total of warrants drawn on the State appropriation for each county	\$7,536 35.
Total warrants drawn on the fund for speakers for county and district Institute meeting	2,161 99.
Warrants were drawn in payment of the expenses of the various departments as follows:	
For expenses of the State Institute meetings, \$155.74 of which was for the unpaid expenses of the Princeton meeting	\$530 46
For postage	163 11
For expressage and freight	277 30
For railroad and hotel expenses of directors	2,856 87
For printing	568 26
For office supplies	77 20
For salaries	1,406 87
For miscellaneous expenses	674 79
Total of warrants drawn	\$16,253 20.

Of the \$674.79 charged to miscellaneous expenses, \$547.52 was expended for the twenty-one Farmers' Institute free libraries and eighteen books on domestic science kept by this office for the use of the domestic science associations of the State, and \$122.27 for the payment of bills presented by the Illinois Association Domestic Science to promote the growth of that association..

Twenty Farmers' Institute free libraries, packed in substantial cases, have been sent out and are doing good work at the following locations:

No. Library	Place.	County.	Librarian.	Date.	No. Vol.
1	Camp Point	Adams	David Cate	Nov. 29, 1899	...
2	Hebron	McHenry	D. A. Hyde	Dec. 22, 1899	50
3	Sparta	Randolph	W. D. M. Eiker	..	54
4	Carbondale	Williamson	H. D. Easterly	..	54
5	Savoy	Champaign	James H. Dunlap	..	54
6	New Burnside	Johnson	J. C. B. Heaton	Dec. 22, 1899	54
7	Edwardsville	Madison	Freda Tegmeler	Jan. 22, 1900	55
8	San Jose	Mason	G. H. Barkmeier	Jan. 25, 1900	55
9	Bates	Sangamon	Chas. R. Taylor	Jan. 16, 1900	55
10	Vermont	Fulton	C. L. Amrine	..	55
11	Cheneyville	Vermillion	John E. Leach	Jan. 27, 1900	55
12	Ellsworth	McLean	E. L. Pancake	Jan. 29, 1900	54
13	Arcola	Douglas	Clisby Hall & Co.	Feb. 3, 1900	55
14	Benton	Franklin	Marshall M. Neal	Feb. 6, 1900	55
15	Tamaroa	Perry	J. M. Whitlock	..	55
16	Fillmore	Montgomery	W. L. Cury	..	55
17	Sorento	Bond	Leslie Robb	..	60
18	Round Prairie	Sangamon	Mrs. E. A. Sterling	Feb. 19, 1900	60
19	Viola	Mercer	Collins Sisters	Feb. 17, 1900	60
20	McLeansboro	Hamilton	O. J. Davis	..	60
21*					60

* Has not been sent out but will go to Grandview, Edgar county.

Total, 21 libraries, containing a total of 1,169 volumes. To which should be added 18 volumes of domestic science books for the use of domestic science clubs of the State and five volumes of over purchase which can be used in future libraries; a total of 1,195 volumes.

Eleven applications for libraries are now on file waiting to be supplied as soon as libraries are available.

As the work of the office of secretary was new to me there were some errors of omission and commission but the coöperation of every member of the board of directors has been so hearty and courteous that I feel under great obligations to each one of you for your kind appreciation of my efforts. I thank you for your kindness to me and also for your enthusiasm and able personal efforts in promoting the Institute work in your respective districts.

Respectfully submitted,

A. B. HOSTETTER,

Secretary.

On motion of Director Coolidge the report of the secretary was adopted.

The committee appointed to audit the secretary's and treasurer's accounts made the following report:

SPRINGFIELD, ILL., Feb. 27, 1900.

To the Board of Directors of the Illinois Farmers' Institute.

SIRS:—We, your committee appointed to examine the secretary's and treasurer's books and papers, do report that we have carefully checked all bills, warrants, stubs, etc., as kept by secretary, also warrants paid by the treasurer and find the treasurer's report showing a balance on hand Feb. 24, 1900, of \$4,432.25, correct. We also find that warrants against the State county fund for \$1,512.84 have been drawn and not presented; also that warrants 663,794, 1,096, 1104, 1,116, 1,118, 1,124, 1,128, 1,130, 1,132, 1,147, 1,153 and 1,172, amounting to \$843.76 have been drawn against the State Institute fund since March 1, 1899 and not presented, thus reducing the balance not drawn against to \$3,588.49.

The records of the meetings have been examined and found to have been kept in excellent shape, and we commend the secretary for the manner in which he has kept them.

(Signed)

G. W. DEAN,
C. D. BARTLETT,
E. W. BURROUGHS,
Committee.

Director Coolidge moved that the report of the auditing committee be adopted and that report of the treasurer be approved and placed on file. Motion adopted.

There being no further business for the Board to transact, on motion it adjourned.

A. B. HOSTETTER,
Secretary.

G. A. WILLMARTH,
President.

APPENDIX

ANNUAL REPORT OF COUNTY FARMERS' INSTITUTES.

ADAMS COUNTY AND 15TH DISTRICT INSTITUTES.

15TH CONGRESSIONAL DISTRICT FARMERS' INSTITUTE.

With Adams County Farmers' Institute and Adams County Association of Domestic Science.—Bailey's Opera House, Camp Point, Illinois, November 16th, 17th and 18th, 1899.—Geo. W. Dean, Adams, Director 15th District.

Officers of Adams County Farmers' Institute—S. N. Black, Clayton, President; E. S. Frank, Clayton, Treasurer; J. E. Simmonds, Camp Point, Secretary.

Officers of Adams County Association of Domestic Science—Mrs. J. A. Nevins, Camp Point, President; Mrs. Scott Taylor, Golden, Secretary.

Thursday, November 16.—Morning session, 10:00 o'clock.

T. N. Baird, Biggsville, Henderson county, President Henderson County Farmers' Institute, presiding; invocation, Rev. R. L. McNabb; song by audience, "America;" welcome address, Thomas Bailey, Camp Point; music; response, G. W. Dean, Adams. T. N. Baird, Biggsville, Ill.; song, "Hunters' Chorus," Golden Glee Club.

Afternoon session—1:30 o'clock.

Eli Dixon, Roseville, Warren county, President Farmers' Institute, Warren County, presiding; address by presiding officer; music; Corn Culture, Lawrence Goosh, Camp Point; song, "Star of Descending Night;" Oats—Varieties and Culture—J. B. Frisbie, Mendon, Ill.; S. Talcott, Mendon, Ill.; Hogs and How to Raise Them, D. P. Roy, Clayton, Ill.; song, "The Forest Choir."

Evening session—7:30 o'clock. Ladies' session, Association of Domestic Science of Adams County, Illinois; Mrs. Jas. A. Nevins, Camp Point, Ill., president, Mrs. Scott Taylor, Golden, Ill., Secretary.

Music, "Witches' Flight," Mrs. S. W. Curry and daughter Florence, Clayton, Ill.; invocation, Rev. Mary Nahan, Clayton, Ill.; song, Miss Bessie Beckett, Camp Point, Ill.; declamation, Miss Maud McCord, LaPrairie, Ill.; solo, Mrs. Milham, Camp Point, Ill.; Wholesome Foods, Mrs. Lucy B. McMillen, Mt. Sterling, Ill.; solo, Miss Hattie Henry, Camp Point, Ill.; recitation, Miss Flora Cutter, Camp Point, Ill.; solo, Miss Leota Aull, Camp Point, Ill.; Domestic Economy, Mrs. C. M. McMillen, Denver, Ill.; violin solo, Mr. Willard Stewart, Golden, Ill.

Friday, November 17. Morning session—9:30 o'clock.

A. R. Stickle, Good Hope, Ill., President of McDonough County Farmers' Institute, presiding; address, by presiding officer; music; Maintaining the Fertility of the Soil, R. B. Starr, Mendon, Ill.; music; Cattle Growing and Feeding, Wm. Logan, Clayton, Ill.; A. H. Clark, Mt. Sterling, Ill.; music; The Silo, or Utilizing all the Corn Crop, A. F. Grout, Director 16th District, Winchester, Ill.; song, Golden Glee Club.



S. N. Black, President, Adams.

Afternoon session—1:30 o'clock.

C. M. Doyle, Rushville, Ill., President of Schuyler County Farmers' Institute, presiding; address, by presiding officer; music; Better Live Stock, and How to Get It, Prof. Eugene Davenport, Dean of Illinois College of Agriculture, Champaign, Ill.; solo, J. H. Kirkpatrick, Clayton, Ill.; The Cow and Her Products, Geo. H. Baldwin, Mendon, Ill.; duet: The Teeth and Their Care, J. C. Booth, D. M. D., Clayton, Ill.; solo, Dr. F. Montgomery, Clayton, Ill.

Evening session | 7:00 o'clock.

S. N. Black, Clayton, Ill., President Adams County Farmers' Institute, presiding; address, by presiding officer; music; declamation; duet, Florence and Orpha Funk, Camp Point, Ill.; What the University and the Farmers Can Do for Each Other, Prof. Eugene Davenport, Dean of Illinois College of Agriculture; music.

Saturday, November 12. Morning session—9:30 o'clock.

Capt. S. D. Nokes, Mt. Sterling, Ill., President Brown County Farmers' Institute, presiding; address, by presiding officer; duet, Daisy and Jennie Taylor, Camp Point, Ill.; Shelter for Cattle, J. C. Pierce, Bowen, Ill.; duet; The Ideal Farmer, J. B. Vandeventer, Mt. Sterling, Ill.; recitation, Ella Dernoss; Farming—Present and Past, J. W. Madison, Fairville, Ill.

Afternoon session—1:30 o'clock.

Wm. B. Marvel, Carthage, Ill., President Hancock County Farmers' Institute, presiding; address, by presiding officer; election of officers; Fruit—What to Plant and How to Keep, C. N. Dennis, Hamilton; recitation—Autumn, Gilbert Bodgley, Clayton, Ill.; song, "Just One Girl," Ella DeMoss, Clayton, Ill.; The Farmer's Garden, S. N. Black, Clayton, Ill.; duet, Flash.

ADAMS COUNTY FARMERS' INSTITUTE.

With the County Association of Womans' Science Club in the Lutheran Church, Mendon, Ill. February 9, and 10, 1900.

Officers—S. N. Black, President, Clayton; E. S. Frank, Treasurer, Clayton; E. L. Grosh, Secretary, Camp Point.

Program—Friday, February 9. Morning session, 10:00 a. m.

Invocation, Rev. J. W. Spires; music; address of welcome, S. H. Bradley; response, S. N. Black; music; Sheep Husbandry, H. K. Francis, Mendon; discussion; Improving a Worn Out Farm, Scott Taylor, Golden; discussion; music.

Afternoon session, 1:30 p. m.

Women's session, Domestic Science Club, Mrs. Emma Nevins, President.—music; Industrial Education for Girls, Miss Louisa Frisbie, Mendon; solo; paper, Miss Ella Stahl, Camp Point; music; address, Domestic Science, Mrs. C. M. McMillen, Denver; music—duet: Needs of the Farmer's Wife, Mrs. J. C. Grover, Ellington; music; reading, Lamb's Donation Party, Miss Nonae Frank, Clayton.

Evening session, 7:00 p. m.

Music; recitation: Why Some Farmers Fail, E. S. Frank, Clayton; discussion; music; Hard Roads; Material, Construction, Cost, W. L. Frisbie, Rockford; recitation, Miss Nonae Frank, Clayton; The Influence of Good Roads on a Community, Rev. L. Stine, Quincy.

Saturday, February 10. Morning session, 10:00 a. m.

Adapting Animals to the Character of the Farm and Soil, Samuel Farlow, Camp Point; discussion; Horses; How to Raise and Train Them, Dr. D. M. Knapp, Mendon; music; Poultry for Pleasure and profit, Mrs. J. T. Blaney, Quincy; Clover Farming, E. L. Grosh, Big Neck; music; A Talk to the boys, G. W. Dean, Adams.

Afternoon session, 1:30 p. m.

Music; Uses of the Corn Plant, J. H. Catlin, Augusta; Mistakes of Farmers, Geo. McAdams, Quincy; recitation; How I Succeeded, Thos. Bailey, Camp Point; Law Points for the Farmer, J. N. Sprig, Quincy; music.

Officers elected for the ensuing year—President, S. N. Black, Clayton; Secretary, E. L. Grosh, Camp Point; Treasurer, E. S. Frank, Clayton.

Average daily attendance of the two institutes, 400; Cost of the district meeting \$64.48; Cost of the second meeting \$30.59.

ALEXANDER COUNTY FARMERS' INSTITUTE.

Held at McClure, Illinois, February 1 and 2, 1900.

Officers—President, P. H. McRaven, McClure; Vice-President, Joe Bunch, McClure; Secretary, J. T. McClure, McClure; Treasurer, J. H. Sams, McClure.

Thursday, February 1. Morning session—10:00 a. m.

Music; invocation; address of welcome, President P. H. McRaven.

Afternoon session—1:30 p. m.

Music; Type and Quality of Live Stock. A. P. Grout, Winchester; discussion; Injurious Insects, illustrated, Prof. G. H. French, of Southern Illinois Normal, Carbondale; discussion.

Evening session—7:30 p. m.

Music; organization of domestic science; lecture, Prof. T. C. Clendenin, superintendent of city schools, Cairo; lecture, Agricultural Education, E. Davenport, Dean of College of Agriculture, Champaign.

Friday, February 2. Morning session—9:00 a. m.

Music; Winter Wheat, W. F. White, Cutler; discussion; Losses from Inferior Live Stock, E. Davenport, Dean of College of Agriculture, Champaign; Apples for Southern Illinois, T. W. Thompson, Carbondale; discussion; election of officers; miscellaneous business.

Afternoon session—1:30 p. m.

Feeding Live Stock, A. P. Grout, Winchester; Corn Culture, A. C. Janes, East Cape Girardeau.

Officers elected for the ensuing year—President, P. H. McRaven, McClure; secretary, J. T. McClure, McClure; treasurer, J. H. Sames, McClure.

Average daily attendance not reported. Cost of Institute, \$67.63.

BOND COUNTY FARMERS' INSTITUTE.

Held in Mitchel's Hall, Sorento, Ill., Wednesday and Thursday, Nov. 15-16, 1899.

Officers—President, E. P. Gracey, Sorento; vice-president, Rufus Cruthis, Sorento; secretary, James I. Denny, Sorento; treasurer, F. Dressor, Sorento. Board of Directors—I. H. Denny, president; S. Lee Elliott, F. F. Thacker, W. C. Gracey, Geo. Himes, John D. Riskill, W. C. Lohman.

Wednesday, November 15. Morning session—10:00 o'clock.

Music; invocation, I. H. Denny, Sorento; address of welcome, E. P. Gracey, Sorento; response, H. M. Ferguson, Reno; music.

Afternoon session—1:30 o'clock.

Music; Farmers' Institute Work, W. A. Young, Butler; music; What the Legislature Is Doing for the Farmer, Senator Dressor, Reno; "A" and "B" Live Upon Adjoining Farms; "A" Prospers, "B" Falls—Why, E. C. Morris, Olney; Domestic Science, Mrs. H. M. Dunlap, Savoy.

Evening session—7:00 o'clock.

Music; Household Economy, Mr. Challacomb, Hillsboro; music; recitation, Miss Lucy Dressor, Sorento; Domestic Science, Mrs. H. M. Dunlap, Savoy.

Thursday, November 16. Morning session—10:00 o'clock.

Music; invocation, Rev. E. M. Johnson, Sorento; Institute Work, Hon. E. W. Burroughs, Edwardsville.

Afternoon session—1:30 o'clock.

Music; Functions of the Railroad and Warehouse Commission and Benefits to the Farmer, Hon. C. J. Lindly, Greenville; National Bureau of Agriculture, Hon. M. M. Sharp, Greenville; Soja Bean and Cow Pea in Its Relation to Modern Progressive Intensive Farming, Hon. R. C. Morris, Olney.

Officers elected for the ensuing year—President, E. P. Gracey, Sorento; secretary, James I. Denny, Sorento; treasurer, F. Dressor, Sorento.

Average daily attendance, 100. Cost of Institute, \$68.00.

BOONE COUNTY FARMERS' INSTITUTE.

In Adelphia Hall, Belvidere. February 6, 7, and 8, 1900.

Officers—O. F. Lucas, President, Belvidere; B. S. Herbert, Vice-President, Belvidere; Luther Lawrence, Secretary, Belvidere; Frank Leach, Treasurer, Belvidere.



O. F. Lucas, Belvidere, Ill.

A question box will be provided for any and all questions pertaining to the work of the Institute and will receive the attention of the president at different times during the session.

Officers elected for the ensuing year—President, O. F. Lucas, Belvidere; Secretary, Luther Lawrence, Belvidere; Treasurer, F. M. Leach, Belvidere.

Average daily attendance, 400; Cost \$108.23.

Tuesday, February 6. Afternoon session, 1:30 p. m.

Prayer, Rev. Wheeler; music; address, Pres. O. F. Lucas; address—Farmers' Institutes; What of their value, A. S. Collins, Belvidere; address—Future of the Hog, A. J. Lovejoy, Roscoe; discussion; appointment of committees; adjournment.

Wednesday, February 7. Morning session, 10:00 a. m.

Music; paper—How to Secure the Most Profit From the Dairy Cow, Clarence Coolidge, Winnebago; discussion; address—Dairy and Creamery Work, H. B. Gurler, Dekalb; discussion.

Afternoon session, 1:30 p. m.

Address—Origin and Habitat of the Horse, Col. F. J. Berry, Chicago; discussion; paper—Character Building in the Public Schools, Mrs. Floyd Pierce, Belvidere; discussion; adjournment.

Thursday, February 8. Morning session, 10:00 a. m.

Music; paper—Consolidation of Schools as a Measure of Economy and Better Schooling, Prof. O. J. Kern, Supt. of Schools, Winnebago, co., Rockford; discussion; address, Poultry for Profit, B. F. Wyman, Sycamore; paper—Growing Vegetables for Profit, J. W. Lyon, Belvidere.

Afternoon session, 1:30 p. m.

Reports of committees, election of officers and delegates to State Institute; address—The Man With the Hoe, Rev. DeLoss Tompkins, Belvidere; address—Farmers and Government, D. W. Wilson, Elgin.

BROWN COUNTY INSTITUTE,

Held at Mt. Sterling, October 10th and 11th, 1899.

Officers—President, S. D. Nokes, Mt. Sterling; secretary, H. A. Perry, Mt. Sterling; treasurer, H. A. Perry, Mt. Sterling.

Program, Tuesday, October 10. Morning session.

Opening exercises; prayer; song, Hersman Male Quartette; opening address, by the president; Bookkeeping in the Dairy Herd "Buff Jersey;" song, Hersman Quartette.

Afternoon session, 1:30.

Song, duett, Mr. and Mrs. W. B. Rigg; recitation, Miss Ruby Deering; Is there a Practical Plan for Making Roads Passable for Loads at all Seasons of the Year? E. E. Byrnes; recitation, Charles Montgomery; Feeding Hogs for Market, J. J. Taylor; music, Hersman Quartette; recitation, Miss Mildred Riley; Cattle and Stock Raising for Illinois, A. P. Grout, Winchester; song, Mt. Sterling Quartette.

Wednesday, October 11. Morning session.

Prayer; song, Fargo Quartette; Farm Fences, A. A. Hill; recitation, Miss Maggie Knight; Soil Culture, P. G. Holden; Household Economy, Mrs. Lucas and Mrs. Byrnes; song, by the Misses Osborne.

Afternoon session.

Song, Mt. Sterling Quartette; The Weed Pest on the Farm: How to Get Rid of Them, C. J. Davis; recitation, Miss Edith Rigg; song, Fargo Quartette; Poultry for Profit—Incubation, Feeds and Breeds, "Buff Jersey;" recitation, Miss Ella Dorsett; election of officers; song, by the Misses Osborne.

Officers elected for the ensuing year—President, S. D. Nokes, Mt. Sterling; secretary, Robert Means, Hersman; treasurer, Robert Bloomfield, Mt. Sterling.



S. D. Nokes, Mt. Sterling.

Average daily attendance, 100. Cost of Institute, \$33.36.

BUREAU COUNTY FARMERS' INSTITUTE.

Held at Apollo Hall, Princeton, Illinois, Tuesday and Wednesday, October 10-11, 1899.

Officers—President, C. C. Pervier, Sheffield; vice-president, W. S. Wilson, Ohio; secretary, H. G. Bryant, Princeton; treasurer, E. A. Washburn, Princeton.



C. C. Pervier, Sheffield, Ill.

Program. Tuesday, October 10, 1899—10 a. m.

Music; prayer; president's address, C. C. Pervier, President Bureau County Farmers' Institute, Sheffield, Ill.; appointment of committees; Breeding and Feeding Cattle for Market, L. McWhorter, Aledo, Ill.; question box. (Questions placed in the query box will be read and answered at each session.)

Tuesday—1:30 p. m.

Music; Farm Horticulture, J. C. Blair, Assistant Professor Horticulture, University of Illinois, Urbana, Ill.; Small Fruits—What to Grow and How to Grow Them, S. G. Soverhill, Tiskilwa, Ill.

Tuesday—7:30 p. m.

Music; Scientific Training for Housekeepers, Mrs. I. D. Page, Princeton, Ill.; Birds and Their Relation to the Farmer, Wm. E. Prager, Urbana, Ill.

Wednesday, October 11—9:30 a. m.

Music; prayer; report of committees; election of officers; report of delegates to the State meeting at Princeton, Illinois, for 1899; Sheep and Their Management for Profit, C. A. Tyler, Secretary Michigan Live Stock Sanitary Commission, Nottawa, Mich.; Noxious Weeds and How to Destroy Them, Guy Bryant, Princeton, Ill.

Wednesday—1:30 p. m.

Music; Selection and Care of Seed Corn, J. W. Sabin, Malden, Ill.; Our Farmers' Girls, Mrs. L. G. Chapman, Secretary LaSalle County Farmers' Institute, Freedom, Ill.

Wednesday—7:30 p. m.

Music; Care of Farm Animals to Prevent Disease, C. P. Lovejoy, Illinois State Veterinarian, Princeton, Ill.; Care of the Poor, Miss Julia C. Lathrop, Member State Board of Charities, Rockford, Ill.; final resolutions.

Officers elected for the ensuing year—President, L. R. Bryant, Princeton; secretary, H. E. Waddell, Princeton; treasurer, E. A. Washburn, Princeton.

Average daily attendance, 200; cost of Institute, \$114.22.

CALHOUN COUNTY INSTITUTE.

Held at Hardin, December 19 and 20, 1899.

Officers—President, W. E. Barber, Hamburg; secretary and treasurer, Chas. H. Lamar, Hardin.

Program—Tuesday, December 19, 10 a. m.
President's address; appointment of committees; General Orchardring, F. M. Cox, Batchtown, Ill.

Noon intermission, 1 p. m.

Type and Quality of Farm Stock, A. P. Grout, Winchester, Ill.; Beekeeping, F. X. Arnold, Deer, Plain, IH.; How and When to Spray for Fruit, Henry M. Dunlap, Savoy, Champaign county; Packing and Handling Fruit, S. J. Merida, Mosier, Ill.

Tuesday evening, 7:30 p. m.

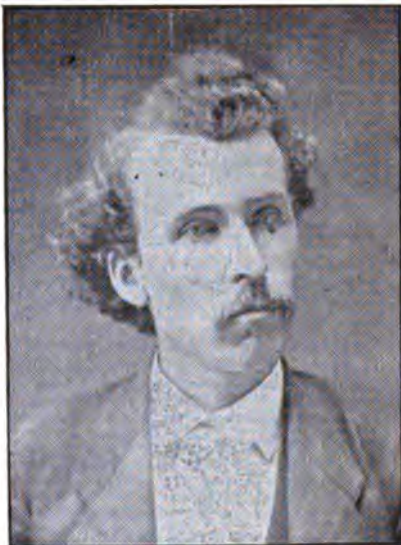
Music; What I Learned at Springfield, Miss Anna Wood, Hamburg, Ill.; The Work and Mission of a Farmers' Institute, G. A. Willmarth, Seneca, Ill.

Wednesday, December 20, 9 a. m.

Insects Injurious to Orchards, Dr. S. A. Forbes, State Entomologist, Urbana, Champaign county; Mistakes and Leaks on the Farm, S. C. Wagoner, Pana, Christian county; report of committees; election of officers for the ensuing year; awarding of premiums; miscellaneous business.

Officers elected for the ensuing year: President, Geo. W. Long, Hillcrest; secretary, S. S. Wing, Hardin; treasurer, William Mortland, Hardin.

Average daily attendance, 105. Cost of Institute, \$75.70. Paid for premiums on exhibits, \$14.00.



W. E. Barber, President, Hamburg.

CARROLL COUNTY INSTITUTE.

Open air meetings at Oakville, June 22 and 23, 1899.

Officers—President, D. S. Mackay, Mt. Carroll; secretary, W. R. Hostetter, Mt. Carroll; treasurer, C. Lamp, Lanark.

Program—Thursday, June 22, 1899, 10:30 o'clock.

Music; prayer; music; address of welcome, John Zuck, Mt. Carroll, Ill.; response, D. S. Mackay, Mt. Carroll, Ill.; music; address, J. L. Hartwell, Dixon, Ill.; paper, Care of Chickens, Amos Yordy, Shannon; music.

Dinner.

Afternoon session, 1 o'clock.

Music; Making Hay, D. Rowland, Lanark; Amos Wolf, Lanark; Calvin Finlayson, Mt. Carroll.

Evening session, 8 o'clock.

Music; address, E. S. Fursman, El Paso, Ill.; address, J. L. Hartwell, Dixon, Ill.; music.

Friday morning, 10:30 o'clock.

Music; Substitutes for Hay, Chas. Beede, Chadwick, Geo. Morris, Lanark, N. Woodin, Elkhorn Grove; music.

Dinner.

Afternoon session, 1 o'clock.

Music; general discussion of matters that have been before the Institute, and any new topics that those present may wish discussed; music, Auld Lang Syne.

Average daily attendance, 150. Cost, \$50.47.

NINTH CONGRESSIONAL FARMERS' INSTITUTE.

Under the auspices of the Carroll County Farmers' Institute, in Patterson's Opera House, Mt. Carroll, January 23, 24 and 25, 1900. Amos F. Moore, Director, 9th district, Peo.

Officers of Carroll County Farmers' Institute.—D. S. Mackay, President, Mt. Carroll; C. Lamp, treasurer, Lanark; W. R. Hostetter, secretary, Mt. Carroll.

Program—Tuesday, January 23—Morning session—10:30 a. m.

Prayer, Rev. J. F. F. Kayhoe; address of welcome, Mayor T. B. Rhodes, Mt. Carroll; response and annual address by the president of the Institute, D. S. Mackay; paper, Raising and Judging Hogs, A. B. Shaner, Lanark; discussion, led by John Miller, Savanna; Jacob Groszman, Lanark; Henry Bowman, Wacker.

Afternoon session—1:00 p. m.

Recent Experiments with Corn, Prof. P. G. Holden, University of Illinois. This lecture will be followed by a general discussion on Utilizing the Corn Crop, led by C. H. Bushman, Milledgeville; George Melendy, Thomson; George Morris, Lanark; Wm. Manning, Elkhorn Grove; Isaac Gillespie, Zion; C. Finlayson, Mt. Carroll; Herman Beede, Chadwick. Farmers are invited to bring samples of shredded fodder, ensilage, cut corn, or any feed that they may be using made of corn or fodder, together with cost of same. We had a short hay crop last year and will probably have another short crop next year. Is the fodder worth saving? Come to the meeting and get the opinion of those who are using corn fodder.

Evening session—7:30 p. m.

Music; Our Schools, J. L. Hartwell, Dixon; music; Consolidation of District Schools as a Measure of Economy and Better Schools, O. J. Kern, Superintendent of Winnebago County Schools; music.

Wednesday, January 24—Morning session—10:30 a. m.

Potato Culture, Chas. Beede, Chadwick; discussion, led by Amos Yordy, Shannon; D. C. Bussell, Milledgeville; D. R. Bennett, Argo; J. A. Boyd, Lanark; M. W. Saylor, Milledgeville; Smut in Oats, P. G. Holden, Prof. of Agronomy, University of Illinois; discussion, Samuel Keim, Mt. Carroll; Thos. Slowberg, Savanna; Joseph Fike, Milledgeville.

Afternoon session—1:30 p. m.

Piano solo, selected, Earl Smith, Mt. Carroll; recitation, Miss Luverta Smith; vocal solo, Miss Sarah Hostetter; address, Domestic Science, Mrs. Kedsie, Peoria; discussion; Vocal solo, Mabel Mershon; report of work done by Domestic Club, Miss Anabel Bowman; Savana; vocal solo, selected, Miss Hattie Morris, Lanark.

Evening session—7:30 p. m.

Piano duet, On Blooming Meadows, Earl Smith and Vernon Moore; recitation, Salvatore Wm, Miss Daisy Haugh, Milledgeville; address, Mrs. Kedsie, Peoria; cornet solo, selected, Vernon Moore; vocal, selected, Miss Nellie Foster.

Thursday, January 25—Morning session—10:30 a. m.

Fruit raising, J. L. Hartwell, Dixon; discussion, led by Chas. Cotta, Nursery; Jacob Christian and C. H. Keim, Mt. Carroll; G. R. Spalding, Elkhorn Grove; general discussion on feeding cattle, opened by N. Wooden, Elkhorn Grove; followed by George Morris, Lanark; Wm. Hay, Woodland; Harry Speelman, Chadwick; Bert Puterbaugh, Milledgeville; Amos Wolf, Lanark; report from Prof. Holden in regard to Agricultural College at Champaign.

Afternoon session—1:00 p. m.

Representatives from the other Institutes in the 8th district will be called upon, and are requested to give reports from their Institutes; reports of committees on election of officers; paper, the Best Horses for Farmers to Raise, A. F. Moore, director of Institutes, 9th district; discussion, Chas. Dame, Lanark; Wm. Mackay, Henry Harnish, Mt. Carroll; Jos. Livengood, Milledgeville; H. B. Hackett, Harper; A. H. Hawk, Lanark.

Officers elected for the ensuing year: President, George R. Morris, Lanark; Secretary, W. R. Hostetter, Mt. Carroll; Treasurer, John Simpson, Mt. Carroll.

Average daily attendance, 200; cost of Institute, \$147.94.

SIXTEENTH CONGRESSIONAL DISTRICT FARMERS' INSTITUTE,

Held with the Cass County Farmers' Institute, in the Opera House, Virginia, January 18, 19, 20, 1900; A. P. Grout, Director, 16th District, Winchester.

Officers—M. L. Crum, president, Virginia; W. B. Conover, secretary and treasurer, Virginia; Chas. A. Gridley, superintendent of exhibits, Virginia.

Program, Thursday, January 18. Morning session, 10 o'clock.

M. L. Crum, presiding. President Cass County Farmers' Institute. Song, "America," audience, led by male quartette; invocation, Rev. W. D. Humphrey, Virginia; address of welcome, C. M. Tinney; response, President M. L. Crum; address, The Work and Mission of Farmers' Institutes, Hon. G. A. Willmarth, Seneca, President Illinois State Farmers' Institute.

Afternoon session, 1:30 o'clock.

W. H. Stevenson, Jacksonville, presiding. President Morgan County Farmers' Institute. Music, duett, Mrs. Henry Phillips and Mrs. John Dirreen; address, A. B. C of Pig Raising, C. L. Stoddard, Carlville; address, Care of Swine on the Farm, Eli McLaughlin, Winchester; address, Clover, and How to Grow It, Dr. Henry Wallace, Des Moines, Iowa, Editor Wallace's Farmer.

Evening session, 7:30 o'clock.

W. B. Otwell, Carlville, presiding. President Macoupin County Farmers' Institute. Music, ladies' quartette; address, The Present Industrial Crisis, Hon. H. T. Rainey, Carleton; music, vocal solo, Mrs. L. H. Skiles; address, The Farmer as a Business Man, Hon. Thos. F. Ferns, Jerseyville.

Friday, January 19. Morning session, 10 o'clock.

Spencer Wyckoff, Delhi, presiding. President Jersey County Farmers' Institute. Music, male quartette. Short talks and discussions of following topics: Benefits of Farmers' Institutes, led by Hon. Henry Miner, Winchester; Duties of Farmers' Institute Officers, led by W. B. Otwell, Carlville; How to Create a Greater Interest in Farmers' Institutes, led by W. H. Stevenson, Jacksonville; address, Success on the Farm, Fred H. Rankin, Athens; address, Poultry on the Farm, Mrs. H. Y. Westlake, Pittsfield.

Afternoon session, 1:30 o'clock.

Hon. Henry Miner, Winchester, presiding. President Scott County Farmers' Institute. Music, Miss Pearl Barkley; address, Type and Quality in Farm Stock, (illustrated), Hon. A. P. Grout, Winchester; address, Cattle Feeding and Grazing for Profit, John G. Imboden, Decatur; address, Farm and Factory, Dr. Henry Wallace, Des Moines, Iowa, Editor Wallace's Farmer.

Evening session, 7:30 o'clock. Ladies' session.

Mrs. W. T. Price, presiding. President Cass County Domestic Science Association. President's address, Mrs. W. T. Price, Virginia; secretary's report, Mrs. M. C. Petefiah, Virginia; report from State Fair Cooking School, Miss Margaret Black, Virginia; music; address, Better Things for the Farmer, Mrs. M. Y. McMahon, Griggsville; music; address, Future Prospects of Our Farmer Boys and Girls, Mrs. H. Y. Westlake, Pittsfield; music; address, Domestic Science, Mrs. J. R. Challacombe, Hillsboro.

Saturday, January 20. Morning session, 10 o'clock.

J. G. Pope, Kane, presiding. President Greene County Farmers' Institute. Music, Miss Edith Massey; address, The Relation of the Farmer and His Cow to Each Other, C. L. Stoddard, Carlville; address, Corn, How to Breed and Improve It, Prof. P. G. Holden, Professor of Agricultural Physics, University of Illinois, Urbana.

Afternoon session, 1:30 o'clock.

H. Y. Westlake, Pittsfield, presiding. President Pike County Farmers' Institute. Music, piano solo, Jas. Phillips; address, Is the Illinois Farmer an Absent Minded Beggar? J. M. Gridley, Virginia; address, Corn Culture, Chas. A. Rowe, Jacksonville; discussion, Comparative Utility of the Planter and Lister, led by John Beggs, Ashland; awarding of premiums; election of officers; sale of exhibits.

Officers elected for the ensuing year—President, W. B. Conover, Virginia; secretary, Chas. A. Gridley, Virginia; treasurer, Chas. A. Gridley, Virginia.

Average daily attendance, 350. Cost, \$161.52. Had exhibits for which premiums were paid over and above cost given.

CHAMPAIGN COUNTY FARMERS' INSTITUTE.

Held at Town Hall, Philo, Ill., January 18 and 19, 1900.

Officers of Champaign County Domestic Science Association—President, Mrs. I. S. Raymond, Philo; Secretary, Mrs. W. T. Simpson, Sidney.

Officers of Champaign County Farmers' Institute—President, I. S. Raymond, Philo; Vice-President, E. O. Chester, Champaign; Treasurer, Z. R. Genung, Rantoul; Secretary, J. A. Hossack, Champaign.



I. S. Raymond, Philo.

Music, instrumental, Miss Grace Adams, Champaign; Report of Delegate to Princeton, Miss Mary B. Porterfield, Sidney; Foods and Nutrition, Miss Frances North, Superintendent of Julia F. Burnham Hospital, Champaign; Better Methods in Our Homes, Mrs. H. M. Dunlap, Savoy; Music, violin and piano, Miss Helen Smith and Eugene Steele, Sidney; Domestic Science in the Public Schools, Mrs. Sarah Swigart, Champaign; Music, song; appointment of delegates; election of officers.

At Ogden, Illinois, February 6 and 7, 1900.

Program—Tuesday, February 6, morning session, 10:00 a. m.

Prayer; opening remarks by the president, I. S. Raymond, Philo; Management of a Small Flock of Sheep, C. Dyer, Mahomet; How to Maintain the Fertility of Our Soil, Prof. P. G. Holden, University of Illinois.

Afternoon session, 1:00 p. m.

Breeding and Management of Swine, Hon. G. A. Willmarth, Seneca, president Illinois Farmers' Institute; Some Germ Diseases of Domestic Animals, Their Prevention, Early Symptoms and Treatment, J. A. Dewey, Urbana; Farm Orchards, Senator H. M. Dunlap, Savoy.

Evening session, 7:00 p. m.

Music by the band; reading of prize essays: Our Agricultural College (illustrated with stereopticon views), Prof. P. G. Holden, College of Agriculture, University of Illinois; What the Farmers' Institute is Doing for the Farmers, G. A. Willmarth.

Program—Thursday, January 18. Morning session, 9:30 a. m.

Invocation; music; opening remarks, President I. S. Raymond, Philo; Good Roads Without Rock, Sand or Gravel, C. H. Van Vleet, Philo; Practical Management of a Small Flock of Sheep, C. Dyer, Mahomet; Up to Date Potato Culture, L. S. Spencer, Pesotum.

Afternoon session, 1 p. m.

Piano duet; Type and Quality in Farm Animals (illustrated), Hon. A. P. Grout, Winchester, President Illinois Live Stock Breeders' Association; What the Agricultural College is Doing, Prof. Eugene Davenport, Dean College of Agriculture, University of Illinois; Corn, Its Place in Our System of Agriculture, Hon. E. E. Chester, Champaign.

Evening session, 7 p. m.

Music; reading of prize essays and announcing awards; Legislation Affecting the Farmer, Hon. H. M. Dunlap, Savoy; Beautifying Home Grounds (illustrated), by Prof. J. C. Blair, Urbana, Ill.

Hon. S. Noble King, Bloomington, Ill., Director 13th District, Illinois Farmers' Institute, will be present during our meeting and take part in the discussions.

Friday, January 19. Morning session, 9:30 a. m.

Farm Buildings (illustrated), John M. Love, Sidney; Losses From Inferior Live Stock and How to Prevent Them, Prof. W. J. Kennedy, Animal Husbandry, University of Illinois; Poultry for the Home Market, G. M. Ames, Tamaroa; election of officers; appointment of Delegates to State Farmers' Institute at Mt. Vernon; reports of committees and list of awards.

Ladies' session, under the management of the Domestic Science Association of Champaign County.

Afternoon session, 1 p. m.

Wednesday, February 7, morning session, 10:00 a. m.

Advantages of Keeping Live Stock on the Farm. E. O. Chester, Champaign; Corn Judging and Breeding, A. D. Shamel, manager field crops, Experiment Station, University of Illinois, Urbana; Oats—History, Culture, Cost, C. H. Van Vleck, Philo; reports of committees; announcement of awards.

Afternoon session, 1:00 p. m.

Under the management of the Domestic Science Association of Champaign County. Addresses by Mrs. E. Davenport, Urbana; Mrs. Jos. Carter, Champaign; Mrs. W. B. Lloyd, Glen Ellyn.

Officers elected for the ensuing year: President, Isaac N. Raymond, Philo; secretary, Jas. A. Hossack, Champaign; treasurer, Z. R. Genung, Rantoul.

Average daily attendance, 300; cost of meeting at Philo, \$76.90; meeting at Ogden, \$103.01; had exhibits of farm products and prize essays for the young people.

17TH CONGRESSIONAL DISTRICT FARMER'S INSTITUTE.

Held with the Christian County Farmers' Institute, Charles F. Mills, Springfield, Director 17th district at Taylorville, Ill., December 13, 14, 15, 1899.

Officers of Christian County Farmers' Institute—President, S. C. Wagener, Pana; Secretary, H. P. Hart, Bolivia; Treasurer, W. D. Coffman, Taylorville.

Programme, Wednesday morning session, 10:00 a. m.

Music; prayer, Rev. E. Thompson; address of welcome, Hon. E. Bach, Mayor of Taylorville; response, Charles F. Mills, Springfield; address by president, S. C. Wagener; Secretary's report; reports of delegates concerning the Institute work in the several counties of the 17th Congressional District. Reports from the County Domestic Science Associations in the 17th Congressional District.

Wednesday afternoon session, 1:30. Ladies session, Mrs. James A. Adams, presiding.

Music, orchestra; prayer, Rev. T. A. Parker, Taylorville; address of welcome, Mrs. J. C. Tureman, Taylorville; response, Mrs. James A. Adams, Taylorville; Literature in the Home, Miss Belle Vollintine, Taylorville; violin solo, Miss Grace Rockwell, Taylorville; cookery school report, Miss Jennie Barbre, Taylorville; Home Influence, Mrs. L. N. Gilbert, Pana; Recitation, Miss Maud Rittger, Morrisonville; Architecture in the Home, Mrs. Mellie Williams, Taylorville; vocal solo, Miss Gertrude Kennedy, Taylorville; A Plea for Time to Live, Mrs. E. Sands, Morrisonville; Poultry, Mrs. G. R. Hardin, Taylorville; Butter Making, Mrs. Nannie Grundy, Morrisonville; recitation, Miss Etta Newcomb, Taylorville; Home Finances, Mrs. E. W. Clark, Pana.

Wednesday evening session, 7:30.

Music; prayer, Rev. Neal, Taylorville; music; address, Alfred H. Bayliss, Supt. Public Instruction, Springfield; music; address, Prof. Lord, Supt. Normal School, Charleston, Ill.

Thursday, December 14th. Morning session, 9:30 o'clock.

Music, prayer, Rev. J. E. Garvin; horticultural session: Selection and Care of an Orchard in Central Illinois, Prof. J. C. Blair, Urbana; discussion—A. D. Webb, Taylorville; questions and answers; Small Fruits on Farm, Rev. Edgar Clark, Pana; question box.

Afternoon session, 1:30 o'clock.

Music; Can a Tenant Farmer Successfully Pay Cash Rent?, John Heywood, Morrisonville; discussion—R. J. Stone, Stonington, Harry Grundy, Morrisonville; music; Points on Pork, Fred H. Rankin, Athens; discussion—H. O. Minnis, Edinburg, Frank Dodson, Morrisonville, Q. I. Simpson, Palmer; question box.

Evening session, 7:30 o'clock.

Music; prize essays—"Advantages of Farm Life."

NOTE—Two prizes of five dollars in gold will be given for the best essays on the above topic—one to any boy and one to any girl attending public school in Christian county. Essays to be read by the parties receiving prize.

Music; address, Frank Reed, Taylorville; recitation, Fred Stockbridge, Pana; essay, Miss Caroline Simpson, Taylorville; Fellowship Among Farmers, Hon. J. R. Miller, Springfield.



S. C. Wagener, Pana.

Friday, December 15th. Morning session—9:30 o'clock.

Music; prayer, Rev. E. W. Clark; How Can the Greatest Profit be Obtained From a crop of Corn, J. T. Foster, Elkhart; discussion—E. A. Ponting, Mowesqua, Wm. Lewis, Morrisonville; address—Cultivation of Friendly Relations Between City and Country, S. K. Strother; The Farmer's Garden, H. P. Hart, Bolivia; discussion—Ake Evans, Rosemond, Fred Grundy, Morrisonville; appointment of committees; question box.

Afternoon session, 1:30 o'clock.

Music; election of officers: music; Agricultural Education, Prof. Eugene Davenport, Urbana; music; address, C. N. Walls, Taylorville; Farm Telephones, Dr. C. C. Mills, Decatur; question box; adjournment.

Officers elected for the ensuing year—President, S. C. Wagener, Pana; Secretary, H. O. Minnis, Edinburg; Treasurer, E. A. Vanderver, Taylorville.

Average daily attendance, 500. Cost of Institute, \$149.95. Had a large exhibit of farm, garden and dairy products, miscellaneous articles and a baby show.

CLARK COUNTY FARMERS' INSTITUTE.

Held at Court House, Marshall, Ill., January 18, 19 and 20, 1900.

Officers—President, J. W. Adams, McKeen; secretary, J. A. Sweet, Marshall; treasurer, Jos. Lutz, Marshall.



J. W. Adams, McKeen, Ill.

Program—Thursday, January 18—Morning session—10:00 p. m.

Music; invocation, Rev. T. H. Tull, Marshall; address of welcome, Mayor C. A. Purdunn, Marshall; response, President J. W. Adams, McKeen; reading the minutes of last meeting.

Afternoon session—1:30 p. m.

Music, male quartet; Cow Pea and Soja Beans as Feed and Fertilizer, Dr. R. C. Morris, Olney; discussion; Farmers' Mutual Fire and Lightning Insurance, Ira J. Bell, Springfield; discussion; Breeding Cattle for Market, H. B. Dulaney, Marshall.

Evening session—7 p. m.

The Ideal Farmers and Farmers' Life, Dr. R. C. Morris, Olney.

Friday, January 19—Morning session—10 a. m.

Music; prayer; Butter Making, Mett English, Marshall; Training up of Children, Mrs. Robert English, Marshall; paper on Domestic Science, Mrs. Chas. Hamill, West Union.

Afternoon session—1:30 p. m.

Music, solo, Frank Cole, Marshall; Agricultural Education, What It Is and What It Means, E. Davenport, Urbana; Roads and Road Making, H. D. Watson, Clinton.

Evening session—7 p. m.

Lecture on Education, Prof. Shoop, Paris.

Saturday, January 20—Morning session—10 a. m.

Prayer, Rev. Billing; music; Diseases of Horses and Cattle, Prof. D. McIntosh, Champaign; Uses and Abuses of Commercial Fertilizers, D. I. Duncan, Selma, Ind.; miscellaneous business; election of officers.

Afternoon session—1 p. m.

Music; Breeding and Management of Swine, G. A. Willmarth, Seneca; Is Broom Corn a Paying Crop, I. W. Saine, Casey.

Officers elected for the ensuing year—President, J. W. Adams, McKeen; secretary, J. A. Sweet, Marshall; treasurer, Joseph Lutz, Marshall.

Average daily attendance, 600; cost, \$94.75.

CLAY COUNTY FARMERS' INSTITUTE.

Held in the A. E. Shinn Block, Flora, Illinois, Wednesday and Thursday, October 25 and 26, 1899.

Officers—President, Joseph S. Peak, Flora; secretary, A. E. Shinn, Flora; treasurer, August Myers, Flora.

Program—Wednesday, Oct. 25th. Morning session, 10 o'clock.

Music; invocation, Rev. Wester, Flora; address of welcome, R. Smith, Flora; response, A. Longworth, Clay City; Wheat Culture—Does it Pay? Samuel White, Flora; discussion.

Afternoon session, 1:30 o'clock.

Music; Corn Culture, Is Mills, Clay City; discussion; Stock Feeding, A. P. Grout, Winchester, Ill.; Tom Smith, Flora; discussion, P. P. Brown, Flora; Charles F. Brown, Flora; John Smitie, Bible Grove; question box.

Evening session, 7:30 o'clock.

Music; recitation, Jos. Snyder, Flora; Illinois Horticulture, J. C. Blair, Urbana, Ill.; discussion; The Future of Farming and the Inducements Offered to Bright Young Men to Stay on the Farm, J. T. Campbell, Louisville; discussion; music.

Thursday, Oct. 26th. Morning session, 10 o'clock.

Music; invocation, Fred L. Thompson, Flora; Fruit on the Farm, J. C. Blair, Urbana; discussion, J. Harrison, Flora; A. Wildman, Flora; John Harrold, Oskaloosa; Crawford Moore, Iowa; Stock Feas as Feed and Fertilizer, L. Euing, Flora; discussion; question box.

Afternoon session, 1:30 o'clock.

Music; election of officers; paper, N. Fairfield; Our Poultry Interests, M. Muth, Flora; discussion; question box.

Officers elected for the ensuing year: President, John Harrold, Oskaloosa; secretary, John Campbell, Louisville; treasurer, A. E. Shinn, Flora.

Average daily attendance, 100; cost, \$57.50.

Had exhibit of farm products.



Joseph Peak.

CLINTON COUNTY INSTITUTE.

The third annual meeting was held in the Court House at Carlyle October 13 and 14, 1899.

Officers: President, Theodore Donnewald, Carlyle; Secretary, N. P. Crocker, Carlyle; Treasurer, John Newkirk, Carlyle.

Program.—Friday morning, 9:00.

Opening by President Theo. Donnewald; Spraying, L. B. Ford, Carlyle; Rotation of Crops, John Johnston, Keyesport; Poultry Raising on the Farm, Mrs. Mary C. Casteel, Huey; general discussion.

Afternoon, 1:30.

Restoring Soil Fertility, E. A. Riehl, Alton; Fertilization and Cultivation of Crops, Rev. A. Demming, Carlyle; Preventing Contamination of Milk, Prof. W. J. Fraser, University of Illinois; general discussion.

Saturday morning, 9:00.

Opening; music, Carlyle Male Quartette; Swine Breeding, George Vernon, Carlyle; Co-operation and Organization Among Farmers, Geo. Tate, Belleville; Silo and Cow Barn, W. C. Davis, Fairfield; general discussion.

Afternoon, 1:30.

Music, Carlyle Male Quartette; Timothy and Red Top, Col. N. B. Morrison, Odin; Insects Injurious to Wheat, Prof. S. A. Forbes, University of Illinois; Soja Beans and Cow Peas, Dr. R. C. Morris, Olney; Question Box; election of officers.

Officers elected for the ensuing year: President, Theodore Donnewald, Carlyle; Secretary, N. P. Crocker, Carlyle; Treasurer, John Newkirk, Carlyle.

Average daily attendance, 100; cost of Institute, \$58.50.

COLES COUNTY INSTITUTE.

Was held at Charleston, January 25 and 26, 1900.

Officers—President, Thornton Ashbrook, Charleston; Secretary, T. L. Endsley, Charleston; Treasurer, T. L. Endsley, Charleston.



Thornton Ashbrook. Charleston.

Officers elected for the ensuing year: President, Thornton Ashbrook, Charleston; Secretary and Treasurer, H. F. Hill, Charleston.

Average daily attendance, 500. Cost, \$97.20. Had an extensive exhibit, including horses, poultry, farm and kitchen products, etc.

NINETEENTH CONGRESSIONAL DISTRICT FARMERS' INSTITUTE.

Under the auspices of the Crawford County Farmers' Institute, held at Robinson, Illinois, January 30, 31 and February 1, 1900.

Officers: President, Urban R. Templeton, Palestine; secretary, James A. Hill, Robinson; treasurer, John D. Trimble, Trimble; director of the 19th Congressional District Illinois Farmers' Institute, D. H. Shank, Paris.

Program—Tuesday, January 30, morning session, 10:00 a. m.

Music, Griawold orchestra; Prayer, Rev. Beckett, Robinson; address of welcome, Mayor Wood Lewis, Robinson; address, D. H. Shank, director, Paris; response, R. C. Morris, Olney; address, W. R. Templeton, president, Palestine; Paper—Sheep Raising, Jame Kirk, Robinson; discussion.

Afternoon session, 1:00 p. m.

Music: Corn Culture, P. G. Holden, State University; Commercial Orchards, Henry Augustine, Normal; Family Orchards, G. W. Parker, Robinson; discussion.

Evening Session, 7:00 p. m.

Music: Good Citizenship, J. M. Hollingsworth, Ridge Farm; Our Agricultural College, P. G. Holden, State University.

Program—Thursday, January 26. Morning session, 9:30.

Music: prayer, Rev. Burnham; music; welcome address, Mayor Patton; response, Pres. Thornton Ashbrook; Prize papers—How Best to Conserve the Fertility of the Soil; Importance of Good Seeds, J. O. Toland, Humbolt; election of officers; colt show on south side square.

Afternoon session, 1:30.

Music; Small Fruits, W. F. Hill; Orchards for Commercial Purposes, Joe H. Winkler, Oakland; How Can We Make Our Orchards More Profitable? H. A. Aldrich, Neoga; Dairying and Dairy Cattle, C. S. Wiley; How Best to Improve the Highways of Coles County at the Least Expense, J. B. Hill, L. F. Alexander.

Evening session.

Music; invocation, Rev. H. C. Gibbs; Agricultural Education, G. B. Wilmarth, Seneca, Ill.; music; Relation of the Bacteria to Soils, Prof. Caldwell; music; School Sanitation and the Beautifying of School Grounds, J. K. Stableton; music. Music furnished by the normal school and the Charleston public schools.

Friday, January 26. Morning session, 9:30.

Music: prayer, Rev. Thos. Knox; My Experience with Poultry, Mrs. John Gaiser; Artificial Poultry Culture, C. L. Carney; Object of Institutes, G. A. Wilmarth, Seneca, Ill.; Raising and Marketing of Brood Corn and Its Future Outlook, Geo. M. Glasco; Balanced Rations, W. J. Frazer, University of Illinois; judging of exhibits.

Afternoon session.

Music, C. R. Doty and J. Ricketts; Household Economy, Mrs. J. M. Hayes; solo, Miss Gertrude Mountjoy; Value of Foods, Mrs. James Pinnell; Social Atmosphere of the Home, Mrs. M. B. Spears; piano solo, Mrs. A. Alvey; Responsibility for Children, Miss Antonnette Ricketts. Five minutes discussion on each subject.

Wednesday, January 31, morning session, 10:00 a. m.
 Better Farming, W. E. Neal, Bridgeport; Management of Swine, G. A. Willmarth, Seneca, president Illinois State Farmers' Institute; Cow Peas and Soja Beans, Robert Morris, Olney.

Afternoon session, 1:30 p. m., ladies' session, conducted by Mrs. Rose Carr, Lis, Illinois.
 Better Methods in Our Homes and Work of the Domestic Science Association, Mrs. Joseph Carter, Champaign; A Plea for Domestic Science Clubs, Mrs. Harry Grundy, Morrisonville; Woman a Factor on the Farm, Mrs. Bell D. Hamill, West Union.

Evening session, 7:00 p. m.
 Music; recitations; address, M. N. Beeman, Robinson; The Price of Success, L. J. Aldrich, president U. C. College, Merom, Ind.

Thursday, September 1, morning session, 9:30 a. m.
 Raising Broom Corn, Thornton Ashbrook, Charleston; Corn Culture, P. J. Bowman, Greenup; Raising and Feeding Swine, G. W. Hirtzell, Effingham; Clover, How to Raise and Care for It, Peter Beaver, Effingham.

Afternoon session, 1:30 p. m.
 Fertilizers and How to Apply Them, Geo. W. Larrabee, Oblong; Farm Drainage and Good Roads, open discussion for everybody; report of committees; election of officers.

Officers elected for the ensuing year: President, J. D. Trimble, Trimble; secretary, Oriel W. Kirk, Robinson; treasurer, Alex. Delsell, Robinson.
 Average daily attendance, 500; cost, \$139.70.

CUMBERLAND COUNTY FARMERS' INSTITUTE.

Held at Court House, Toledo, January 26 and 27, 1900.

Officers—President, P. J. Bowman, Greenup; vice-president, B. N. Holsapple, Toledo; secretary, A. E. Yanaway, Toledo; treasurer, Mrs. Mollie Eskridge, Toledo.

Program.—Friday, January 26, morning session, 10:00 a. m.

Music; prayer, Rev. Cyrus Moon, Greenup; address of welcome, Hon. D. B. Green, Toledo; response, President P. J. Bowman, Greenup; Apiary, Jesse Keater, Greenup; discussion, led by Clinton Swickard, Bradbury; music; adjournment for dinner.

Afternoon session, 1:30 p. m.

Music; prayer, Rev. D. D. Judson, Toledo; What Clover, Soja Beans and Cow Peas Will Do for a Run Down Farm and a Discouraged Farmer, Dr. Robert C. Morris, Olney; discussion, led by H. W. Catey, Timothy; music; Corn Culture, Clark Leggett, Greenup; discussion, led by N. Applegate, Hazel Dell; Why a Meat Raising Farmer Makes Money and a Grain Raising Farmer Gets Poor, John Connell, Johnstown; discussion, led by Dr. Morris; music; adjournment for supper.

Evening session, 6:30 p. m.

Prayer, Rev. Mrs. D. K. Stevenson, Toledo; music; oration, John E. Williams, Timothy; essay, Miss Lucille Anderson, Janesville; Educators as Farmers, Prof. H. C. Bruse, Greenup; oration, Miss Remola Yanaway, Casey; music; essay, Miss Bonnie Brady, Janesville; recitation, Miss Ollie Bowman, Greenup; music; oration, Roy Baker, Montrose; speech in German, Miss Bertha Harker, Toledo; music.

Saturday, January 27, morning session, 9:00 a. m.
Prayer, Rev. Hartley, Toledo; The Farmers' Fruit and Vegetable Garden, Mrs. S. Rose Carr, Lis; discussion, led by J. N. Nees, Greenup; Poultry Raising, Mrs. Mollie Eskridge, Toledo, and George E. Moses, Greenup; discussion, led by Mrs. Carr; music; Insects Injurious to Fruit, H. A. Aldrich, Neoga; discussion, led by B. N. Holsapple, Toledo; music; adjournment for dinner.

Afternoon session, 1:00 p. m.
Prayer, Rev. Howard, Toledo; music; Domestic Science, Mrs. S. Rose Carr, Lis; discussion, led by Mrs. M. F. Ault, Toledo; Is Hard Roads Practical? H. W. Catey, Timothy, and S. F. Wilson, Neoga; discussion, led by O. H. Garrett, Woodbury; The Advantage of Sheep on the Farm, W. S. Einrich, Casey; discussion, led by C. C. Baker, Montrose; election of officers for the ensuing year, and election of delegates to the State Institute; music; benediction, Rev. M. F. Ault, Toledo.

Officers elected for the ensuing year: President, W. H. Catey, Timothy; secretary, C. C. Leggett, Greenup; treasurer, Mrs. Alice Deen, Vevay Park.
 Average daily attendance, 600; cost, \$36.61. Had exhibits of farm products.



P. G. Bowman, Greenup.

EIGHTH CONGRESSIONAL DISTRICT FARMERS' INSTITUTE, THE DEKALB COUNTY FARMERS' INSTITUTE AND THE DEKALB COUNTY DOMESTIC SCIENCE ASSOCIATION.

Held in Ward's Opera House, Sycamore, Illinois, February 12, 14 and 15, 1900.

Institute Officers—Director of district, C. D. Bartlett, Bartlett, Ill.; president, H. O. Whitmore, Sycamore; vice president, C. V. Wendell, Rollo; treasurer, B. F. Wyman, Sycamore.

Officers Domestic Science Association—President, Mrs. E. C. West, Sycamore; vice president, Mrs. B. F. Wyman, Sycamore; secretary, Miss Mary Hooker.

Tuesday, February 13. Morning session, 10 o'clock.

Violin solo, Mrs. Morgan, Sycamore; prayer, Rev. G. W. Rexford, address of welcome, Mayor Syme; response, President Whitmore; recitation, Rose Sanford; Breeding Up, Selection and Preparation of Seed Corn, James Riley, Thorntown, Ind.; discussion; appointment of committees.

Afternoon session, 1 o'clock.

Violin solo, Mrs. Morgan; The Value of Corn Fed for Beef or Milk, Hon. D. C. Bartlett, Bartlett, Ill.; discussion; recitation, Rose Sanford; Poultry on the Farm, F. M. Munger, DeKalb, Ill.; discussion; music, Roy C. West and others; The Management of Red Clover for Best Results, James Riley, Thorntown, Ind.

Evening session, 7:30 o'clock.

Music, Sycamore orchestra; recitation, Miss Emily Waterman; whistling solo, Miss Zaida Brown, DeKalb; The Chemistry of Cooking, Mrs. W. B. Lloyd, Glenn Ellyn, Ill.; song, Jackson Moore; violin solo, Mrs. Morgan; fan drill, school children; How to Keep the Boys and Girls on the Farm, James Riley; music, quartette; recitation, Sanford Holcomb; music, Sycamore orchestra.

Wednesday, February 14. Morning session, 9:30 o'clock.

Violin solo, Mrs. Morgan; recitation, Rose Sanford; Important Adjuncts of the Dairy, Lovejoy Johnson, Stillman Valley; discussion; Losses from Inferior Live Stock and How to Prevent Them, Prof. E. Davenport, Champaign University; discussion; coronet solo, W. T. Cheasbro, Cortland; Practical Corn Culture Illustrated, James Riley; discussion; Handling Dairy Cows and Milk on the Farm, G. H. Gurlier, DeKalb.

Afternoon session, 1 o'clock.

Music, instrumental, Roy C. West and others; recitation, Miss Witte, Cortland; Agricultural Education, Prof. Davenport, Dean Agricultural College, Champaign.

H. O. Whitmore, Sycamore.

Agricultural Education, Prof. Davenport, Dean Agricultural College, Champaign.
Department of Domestic Science.

Violin solo, Mrs. Morgan; recitation, Miss Helen Watson; The Association of Domestic Science, Its Organization and Its Work, Mrs. Joseph Carter, President State Domestic Science Association, Champaign, Ill.; coronet solo, W. T. Cheasbro; The Farmers of the Past and Present, Mrs. H. O. Whitmore, Sycamore; recitation, Miss Ivy Wright, Aurora.

Evening session, 7:30 o'clock.

Music, Sycamore orchestra; recitation, Miss Witte; music, quartette; Teaching Domestic Science in Our Schools, Mrs. Joseph Carter, Champaign; recitation, Miss Helen Watson; tambourine drill, school children; whistling solo, Miss Zaida Brown; Domestic Science, Mrs. Emma L. Ellwood; recitation, Miss Ivy Wright; violin solo, Mrs. Morgan; recitation, Miss Grace Willmarth; first prize essay on Domestic Science; second prize essay on Domestic Science; recitation, Sanford Holcomb; music, Sycamore orchestra.

Thursday, February 15. Morning session, 9:30.

Violin solo, Mrs. Morgan; The Work and Missions of Farmers' Institutes, G. A. Willmarth, President State Farmers' Institute, Seneca, Ill.; discussion: Corn and Its History, illustrated by thirty different samples of corn, their uses, etc., Wm. Dickinson, Chicago; discussion; report of committees, election and other business.

Afternoon session, 1 o'clock.

Awarding premiums on exhibits; sale of exhibits; violin solo, Mrs. Morgan; Good Roads, B. F. Wyman; How a Boy Can Buy a Farm and Pay for it by His Own Exertions; James Riley, Thorntown, Ind.

Officers elected for the ensuing year: President, O. F. Holcomb, Sycamore; secretary, B. F. Wyman, Sycamore; treasurer, B. F. Wyman, Sycamore.

Average daily attendance, 400; cost, \$166.95.



DEWITT COUNTY FARMERS' INSTITUTE.

Held at Clinton, Illinois, January 10, 11 and 12, 1909.

Officers—President, Finley Borders, Clinton; vice-president, C. M. Hartssock, Clinton; secretary, Frank W. Kline, Clinton; treasurer, Chas. Walker, Clinton.

Program—Wednesday, January 10, morning session—10 a. m.

Prayer, Rev. D. MacArthur; vocal solo, Mrs. Carl Jones; address of welcome, H. D. Watson; response, President F. M. Borders; paper—How to Stimulate a Better Interest in Farmers' Institute Work, O. C. Ives; general discussion.

Afternoon session—1:30 p. m.

Vocal solo, J. W. McPherson; recitation, Ikey Foley; paper—Corn, Best Method of Culture, W. S. Harrold, Wapella; general discussion, led by C. Y. Miller, Maroa; paper—Poultry on the Farm, Mrs. J. H. North, DeWitt; general discussion, led by Mrs. John Sprague.

Tuesday, January 11—Morning session 10 a. m.

Prayer, Rev. J. B. Horney; instrumental solo, Miss Linnie Marsh; recitation, Mrs. Edward Platt; address—Our Horse Interests, S. Noble King, Bloomington; general discussion—J. J. Rolofson, E. E. Cantrell; paper—How to Feed and Treat the Cow to Obtain the Best results, Mrs. P. T. Sweeney; general discussion.

Afternoon session—1:30 p. m.

Vocal solo, Miss Flossie Hoyt; recitation, Miss Edith Pelton; address—Won't Hard Road Making Be Practical in DeWitt County?—S. Noble King, Bloomington; general discussion, Jacob Ziegler; address—The Farmers' Garden, Jonathan Periam, Chicago; general discussion, Warren Hughes; instrumental music, Miss Olive May.

Evening session—7:30 p. m.

Vocal quartet, Johnston, Jones, Perryman and Bosserman; recitation, Miss Berzie Harrold; instrumental solo, Lida Ricks; address—The Education of the Farmer's Daughter, Miss Jennie Good, principal Clinton High School; recitation, Miss Anna McPherson; address—Why the Boy Leaves the Farm, Judge W. G. Cochran, Sullivan.

Friday, January 12—Morning session—10 a. m.

Prayer, Rev. E. A. Gilliland; instrumental solo, Miss Mabel Jones; recitation, Miss Edna Dubois; address—How to Make Cattle Raising Profitable, L. H. Kerriek, Bloomington; general discussion, led by John McConnell, Leroy; address—The Relation of Landlord and Tenant, Judge G. K. Ingham, A. T. McKinney.

Afternoon session—1:30 p. m.

Vocal solo, Mrs. J. R. Bosserman; recitation, Mrs. Weldon Slick; music, Roy Kinna-mon; address, E. B. Mitchell; vocal solo, Eddie Day; auction sale of exhibits.

Evening session—7:30 p. m.

Music, selected, Clarence W. Danks; recitation, Miss Bessie Burkholder; address—Agricultural Education, J. W. Kern, Waynesville; recitation, Mrs. Samuel Keys, Beason; prize essays by girls and boys under 16 years of age.

Officers elected for the ensuing year—President, F. M. Borders, Clinton; secretary, Charles N. Hartssock, Clinton; treasurer, Charles Walker, Clinton.

Average attendance, 500; cost of Institute, \$175.76. Had liberal premiums for a general exhibit. Farm products and pantry stores.



Finley Borders, Clinton.

DOUGLAS COUNTY FARMERS' INSTITUTE.

Held at Armory Hall, Arcola, Ill., Wednesday, Thursday and Friday, January 31 and February 1 and 2, 1900.

Officers—President, Joseph Bouck, Arcola; secretary, Joseph Combe, Arcola; treasurer, John Burky, Arcola.



Joseph Bouck, Arcola.

cial Products, E. S. Fursman, El Paso; questions; discussion.

Evening session, 7:30 p. m.

Song, The Birthday of Old Uncle Sam, quartette; Education of Farm Life, E. S. Fursman, El Paso; Agricultural Education, G. A. Willmarth, Seneca; song, Good Night, quartette.

Friday, February 2—Woman's Day—Mrs. E. J. McCarty, presiding—morning session, 9 a. m.

Prayer, Rev. Wm. Luce; song, Song of the Reapers, quartette; paper, Disadvantage of Farm Life Under Present Conditions, Mrs. Emeroy Mitchell, Arcola; questions, discussion; Difference in Efficiency of Individual Dairy Cows, Prof. Wilber J. Fraser, Champaign; questions, discussion; Paper Poultry for Profit, Mrs. W. B. Chandler, Bonbon; questions, discussion, Mrs. E. J. McCarty, Mrs. Wm. Iles, Mrs. Geo. Phifer, Mrs. Emeroy Mitchell.

Afternoon session, 1 p. m.

Song, Sucker State, quartette; paper, Management and Economy as It Applies to Country Life, Mrs. E. R. Gillespie, Arcola; paper, Better Methods in Our Homes, Mrs. H. M. Dunlap, Savoy.

Officers elected for the ensuing year: President, James Skinner, Arcola; Secretary, Joseph Coombe, Arcola; treasurer, John Burky, Arcola.

Average daily attendance, 400; cost of Institute, \$96.07. Had a general exhibit.

Program—Wednesday, January 31, morning session, 9 o'clock.

Prayer, Rev. A. W. Mills, A. M.; song, The Cows Are in the Clover, quartette; Raising and Feeding Cattle for Profit, John O. Honnold, Warrenton, Edgar county; questions, discussion, Walden Jones, Bonbon; Wm. Iles, Camargo; Geo. R. More, Arcola; Abe Kaufman, Chesterville; John Burky, Arcola; How We Should Encourage Young Farmers, Haden Cuppy, Kemp; questions, discussion.

Afternoon session, 1 p. m.

Song, Success to the Jolly Old Farmer, quartette; declamation; Is it Possible to Have Better Roads Without Increasing Taxation, G. S. Larlox; questions, discussion; How and When to Spray, H. M. Dunlap, Secretary State Horticultural Society, Savoy; questions, discussion; How to Preserve the Fertility of the Soil, B. F. Staymates, Clinton; questions, discussion, Sol. Watson, Jonas Kaufman, Geo. Phifer, Thomas Lyons, Steve Munsen.

Evening session, 7 p. m.

Exercises by the public schools of Arcola.

Thursday, February 1, morning session, 9 a. m.

Prayer, Rev. Clemens; song, Old King Coal, quartette; The Work and Mission of Farmers' Institutes, Hon. G. A. Willmarth, President Illinois Farmers' Institute, Seneca; Clover, J. M. Hollingsworth, Ridge Farm; questions; My Experience with Clover, Abe Eckert, John Woolford, Sam Duncan; Joseph Bouck, John Hall, Mell Crews, Joseph Hemenway.

Afternoon session, 1 p. m.

Song, Our School Boy Days, quartette; election of officers; declamation; The Breeding and Management of Swine, G. A. Willmarth, Seneca; questions, discussion; Broom Corn Seed as an Article of Commerce, Hon. Thos. Lyons, Arcola; questions, discussion; Corn Culture, Deep Versus Shallow Plowing, Prof. A. D. Shammel, Champaign; Corn Culture and Its Commer-

DUPAGE COUNTY FARMERS' INSTITUTE.

Held at the court house, Wheaton, Ill., January 17, 18 and 19, 1900.

Officers—C. D. Bartlett, President, Bartlett; R. T. Morgan, Secretary, Wheaton.

Program—Wednesday, January 17, 10 o'clock a. m.

Prayer; address of welcome, Mayor H. W. Grote; response, Mazzina Slusser; Farmers' Organization—its Necessity and Benefit, Oliver Wilson, Magnolia, Ill.; How Shall we Keep Fertility of Soil, James Riley, Thorntown, Ind.; music, Wm. Jovernall, Naperville.

Afternoon session, 1:15.

Music, Wm. Jovernall, Naperville; Poultry for Profit, B. F. Wyman, Sycamore; Milk Fever, its Cause and Cure, Dr. A. S. Alexander, Evanston; The Cow, S. N. Wright, Elgin; Red Clover, James Riley, Thorntown, Ind.

Thursday, January 18, 9:30 a. m.

Prayer; The Farmer and the Government, D. W. Wilson, Elgin; Horses, F. J. Berry, Chicago; music, Mrs. Kohnhurst, Glen Ellyn; How a Boy Can Buy a Farm and Pay for it, James Riley, Thorntown, Ind.; recitation, Mrs. Edith Bartlett, Chicago; Horticulture, Prof. J. L. Hartwell, Dixon.

Afternoon session, 1:15.

Music, Mrs. Kohnhurst, Glen Ellyn; election of officers; Sanitary Management of Swine, James Riley, Thorntown, Ind.; Dairying, H. B. Gurler, DeKalb; Poultry Interests, E. J. W. Dietz, Downer's Grove; recitation, Mrs. Edith Bartlett, Chicago.

Evening session, 7:30.

Music, J. McAuliffe's orchestra, Chicago; recitation, Mrs. Edith Bartlett, Chicago; address, Dr. P. L. McKinney, Evanston; music, J. McAuliffe's orchestra, Chicago; recitation, Mrs. Edith Bartlett, Chicago; music, Mrs. Kohnhurst, Glen Ellyn; The Relation of the Home to the School, with stereopticon views, Prof. C. W. Farr, Assistant County Superintendent of Schools, Cook county.

Friday, January 19, 9:30 a. m.

Music, McAuliffe's orchestra, Chicago; prayer; paper, Prof. Chas. W. Farr, Chicago; address, Prof. Baylis, State Superintendent of Schools, Springfield; music, McAuliffe's orchestra, Chicago; paper, Mrs. W. B. Lloyd, Glen Ellyn; address, Mrs. Ella Young, Chicago.

Afternoon session, 1:15.

Music, McAuliffe's orchestra, Chicago; Corn Culture, its Commercial Products, E. S. Furman, El Paso, President Illinois Corn Growers' Association; address, Prof. O. T. Bright, Superintendent of Schools, Cook county; address, G. A. Willmarth, Seneca, President Illinois Farmers' Institute; recitation, Mrs. Edith Bartlett, Chicago; miscellaneous business; report of superintendents of exhibits; music, McAuliffe's orchestra, Chicago.

Officers elected for the ensuing year: President, C. D. Bartlett, Bartlett; Secretary, R. F. Morgan, Wheaton; Treasurer, James W. McKee, Eola.

Average daily attendance, 500. Cost, \$205.95.

Had extensive exhibits and prizes for schools.

EDGAR COUNTY FARMERS' INSTITUTE.

Held at Paris, Illinois, January 16, 17, 18, 1900.

Officers—President, J. M. Hollingsworth, Ridge Farm; Vice-President, C. W. Clark, Edgar; Recording Secretary, Mrs. Julia Tate, Paris; Treasurer, E. B. Smith, Grandview; Corresponding Secretary, Geo. H. Gordon, Paris.

Domestic Science Association—President, Mrs. Mary Fell, Warrenton; Secretary, Mrs. Jas. Marley, Ferrell. Mrs. L. C. Clark, Edgar; Mrs. Kate Thompson, Mrs. S. E. Slemons.

Program—Tuesday, January 16. Morning session, 10 o'clock.

Address of welcome, Mayor Z. T. Baum; President's address, J. M. Hollingsworth; report of Secretary, Mrs. Julia Tate; report of Treasurer, C. D. Smith.

Afternoon session, 1:30 o'clock.

Cattle Feeding and Grazing for Profit, J. G. Imboden, Decatur; Poultry on the Farm, Fred Grundy, Morrisville.

Evening session, 7:30 o'clock.

Program by the Paris high school; address, Prof. W. M. Evans, Eastern Illinois Normal, Charleston.

Wednesday, January 17. Morning session, 9:30 o'clock.

Farm Drainage, Geo. E. Levings, Paris; Legal Rights of Drainage, Judge H. VanSellar, Paris; Road Improvement, J. H. Shively, Kansas.

Domestic Science session, 1:30 o'clock.

Management of the Home, Mrs. L. C. Clark, Edgar; How to Make Pies, Mrs. Jas. Marley, Ferrell; Domestic Science, Mrs. Rose Carr, Lis; Better Methods in Our Homes, Mrs. H. M. Dunlap, Savoy.

Evening session, 7:30 o'clock.

Address, The Work and Mission of Farmers' Institutes, Hon. G. A. Willmarth, President Illinois Farmers' Institute, Seneca; address, The Education of Our Girls, Mrs. H. M. Dunlap, Savoy.

Thursday, January 18. Morning session, 9:30 o'clock.

General Discussion on Clover, led by C. D. Smith, Grandview; A Renter's Corn Crop, E. J. Taylor, Ridge Farm; Corn on Timber Land, W. A. Pierson, Vermilion; Experiences With the Weeder, led by Chas. W. Curl, Mayo; Insects Injurious to Corn, Prof. S. A. Forbes, Urbana.

Afternoon session, 1:30 o'clock.

The Farmer's Fruit and Vegetable Garden, Mrs. Rose Carr, Lis; Our Agricultural College, J. O. Honnold, Warrentown; election of officers; adjournment. Good music throughout. Live discussion of all topics.

Officers elected for the ensuing year: President, J. M. Hollingsworth, Ridge Farm; Secretary, Geo. H. Gordon, Paris; Treasurer, C. D. Smith, Grandview.

Average daily attendance, 450. Cost, \$106.61.

TWENTIETH CONGRESSIONAL DISTRICT FARMERS' INSTITUTE.

Held with the Edwards County Farmers' Institute, L. N. Beal, Mt. Vernon, director, in the Court House, Albion, Illinois, Wednesday, Thursday and Friday, December 13, 14 and 15, 1899.

Officers of Edwards County Farmers' Institute: President, Albert Fewkes, Albion; vice-president, Loren Jack, Albion; secretary and treasurer, Walter Rigg, Albion.

Program—Wednesday, December 13, morning session, 9:30 a. m.

Music; prayer; address of welcome; response; appointment of committees.

Afternoon session, 1:00 p. m.

Music; question box opened; The Primitive Fertility of the Soil, How Restored, Joseph Stone, Mt. Carmel; discussion, A. P. Henderson, Albion; Our Beef Interests, Robert Mitchell, Princeton, Ind.; discussion, J. B. Reid, Albion.

Evening session, 7:00 p. m.

Music; declamation; paper, Education for Citizenship, Prof. John W. Emmerson, principal Albion Public Schools; discussion, Prof. Harper, Albion; music; reading, Miss Sherer, Albion.

Thursday, December 14, morning session, 9:30 a. m.

Music; prayer; Farmers' Institutes, L. N. Beal, Mt. Vernon, director 20th District; Economic Feeding of Stock, Dr. Berry, Carmi; discussion.

Afternoon session, 1:00 p. m.

Music; question box opened; Elements of Agriculture in the Country School, Miss Mary E. King, Fairfield; discussion, J. W. Barber, Albion; Domestic Science, Mrs. L. N. Beal, Mt. Vernon; discussion, Miss Lillian C. Hall, Albion.

Evening session, 7:00 p. m.

Music; prayer; declamation; music; lecture, Dr. D. Berry, Carmi; music.

Friday, December 15, morning session, 9:30 a. m.

Music; prayer; report of committees; Profit in Sheep, Robert Mitchell, Princeton, Ind.; discussion, F. A. West, Albion; Horticulture, L. N. Beal, Mt. Vernon; discussion, Morris Colyer, Albion.

Afternoon session, 1:00 p. m.

Music; question box opened; Extensive Exhaustive Farming Don't Pay—Extensive Progressive Farming Does Pay—How and Why, Dr. R. C. Morris, Olney, discussion, Dr. Daniel Berry, Carmi; Improved Public Highways, Robert Mitchell, Princeton, Ind.; discussion, Hon. John Landrigan, Albion.

Officers elected for the ensuing year: President, F. A. West, Albion; secretary and treasurer, Loren Jack, Albion.

Average daily attendance, 125; cost, \$122.25.



Albert Fewkes, President, Albion.

EFFINGHAM COUNTY FARMERS' INSTITUTE AND DOMESTIC SCIENCE ASSOCIATION.

Held in the Court House, Effingham, Ill., November 21 to 23, 1899.

Officers—President, Peter Beever, Effingham; vice-president, W. J. Jutkins, Effingham; secretary, G. W. Hirtzel, Shumway.

Program.—Tuesday, November 21, morning session, 10 a. m.

Music; prayer; address of welcome, Mayor Groves, Effingham; response, Peter Beever, president of the Institute; music; appointment of committees.

Afternoon session, 1 p. m.

Music; address, Poultry on the Farm, J. L. Haun, Beaucoup; music; paper, Poultry, William Homann; Moccasin; music; recitation, Sockery Setting a Hen, Miss Maggie Gloyd, Summit township.

Evening session, 7:30 p. m.

Entertainment by the public schools of the city of Effingham.

Wednesday, November 22, morning session, 9 a. m.

Music; prayer; paper, Cattle, George Kincaid, Watson; music; address, Stock Feeding from Standpoint of Fertility, Prof. Eugene Davenport, Urbana; music.

Afternoon session, 1 p. m.

Music; address, Raising and Feeding Hogs, L. P. Mauts, Watson; address, Breeding and Management of Swine, G. A. Willmarth, president of Illinois Farmers' Institute, Seneca; talk, The Soil of Effingham County, Prof. W. J. Brinkley, vice-president of Austin College Effingham.

Evening session, 7:30 p. m.

Entertainment by literary societies of Austin College, Effingham.

Thursday, November 23, morning session, 9 a. m.

Music; prayer; paper, Muskmelon and Tomato Culture, W. C. Bradley, Watson; Glover Culture and Its Beneficial Results, H. D. Watson, Clinton; music; Soja Beans and Cow Peas, Wm. Dyke, Effingham; election of officers.

Afternoon session, 1 p. m.

Domestic Science Association, Mrs. M. M. Gloyd, president, Summit township; music; address, Sanitary Conditions of the Farm and Home, Dr. H. C. Van Sandt, Montross; music; recitation, Walter Burrell, Effingham; paper, Domestic Science, Mrs. Rose Carr, Lts; music; paper, How to Create and Preserve the Atmosphere that Gives Character to the Home, Maggie Gloyd, Effingham; music; paper, Recreation in the Home, Miss Lulu Condo, Moccasin.

Officers elected for the ensuing year: President, Peter Beever, Effingham; secretary and treasurer, L. P. Mauts, Watson.

Average daily attendance, 200; cost, \$94.97. Had exhibits of poultry, grains, vegetables and fruit, baby show, kitchen and needlework.



Peter Beever, President.

EIGHTEENTH CONGRESSIONAL DISTRICT AND FAYETTE COUNTY FARMERS' INSTITUTE.

At opera house, Vandalia, Ill., May 22, 23, 24, 1899, held under the auspices of the Fayette County Farmers' Institute.

Officers—C. E. Cox, President; Geo. F. Houston, Secretary; Dr. R. T. Higgins, Treasurer. Executive Committee:—J. J. Zent, S. J. Beer, T. S. Washburn, C. F. Easterday, J. D. Taylor; E. W. Burroughs, Director 18th Congressional District, Edwardsville.

Program, first session Monday, 8 p. m., May 22.

Music—piano solo, Miss Higgins; prayer, Rev. M. L. Wagner; address of welcome, Hon. J. J. Brown; response, E. W. Burroughs, Edwardsville, director 18th District; address, L. A. Spies, St. Jacob; address, Mrs. Joseph Carter, Champaign, President Illinois Association of Domestic Science; music, Mandolin Club.

Second session, 9:30 a. m., Tuesday, May 23.

Music—piano solo, Miss Laurene Wahl; prayer, Rev. J. B. Webb; Wheat Culture, Frank Troeckler, Mitchel; The Dairy, L. S. Dorsey, Moro.

Third session, 1:30 p. m., Tuesday, May 23.

Music—piano duet, Miss Adda Brown and Mrs. Addie Henry; The Farm Home, Mrs. A. H. Wing, Fayette County; Household Economy, Mrs. M. E. Challacomb, Montgomery co.; address, Mrs. Agnes Ball Thomas, Montgomery co.; Domestic Science, Mrs. Joseph Carter, Champaign, President State Association; music—vocal solo, Miss Hattie Nell.

Fourth session, 8:00 p. m., Tuesday, May 23, Educational.

Music, Male Quartet; Benefits of Farmers' Institutes, G. A. Willmarth; balance to be filled by County Superintendent.

Fifth session, 9:30 a. m., Wednesday May 24.

Music—piano solo, Miss Julia Higgins, prayer, Rev. J. G. Tucker; Horticulture, W. A. Young, Butler, member State Board of Agriculture; Swine, G. A. Willmarth, Seneca, President Illinois Farmers' Institute.

Sixth session, 1:30 p. m., Wednesday, May 24.

Music—vocal solo, Mrs. Waverly Houston; The Care and management of Sheep, Isaac L. Killam, Brunswick; Cattle, W. H. Fulkerson, Jerseyville, President State Board of Agriculture; music, Mandolin Club.

Average daily attendance, 100; cost \$99.45.

FORD COUNTY FARMERS' INSTITUTE.

Held at Gibson City, Illinois, in Burwell's Opera Hall, Tuesday, Wednesday and Thursday, January 30 and 31, and February 1, 1900.

Officers—F. W. Beardsley, Gibson City, president; J. H. Beagley, Sibley, secretary; D. A. Taylor, Gibson City, Treasurer.

Program, Tuesday, Jan. 30. Morning session, 9:30 o'clock.

Prayer, Rev. M. W. Everhart; address of welcome, Mayor Jones; response to welcome address, D. P. McCracken, Paxton; president's annual address, F. W. Beardsley, Gibson City; arrangements of exhibits.

Afternoon session, 1:30 o'clock.

Address, Breeding and Management of Swine, Hon. G. A. Willmarth, President Illinois State Institute, Seneca, Ill.; discussion, led by W. R. Harvey, Sibley; address, Surface Cultivation, Ed Connell, Gibson City; discussion, led by Walter Mottier, Dix; Agricultural Experience Class; led by John A. Scott, Kempton.

Tuesday evening, 7:00 o'clock.

Address, Agricultural Education, Hon. G. A. Willmarth. The Gibson schools will furnish a literary and musical program for this evening.

Wednesday, Jan. 31. Morning session, 9:30 o'clock.

Prayer, Rev. W. C. Snider; address, Corn Growing, W. B. Mills, Mt. Palatine; discussion, led by J. P. Trott, Sibley; address, The Farmer: Is He Prosperous? J. N. Bondurant, Paxton; discussion, led by V. G. Way, Proctor; Agricultural Experience Class, led by J. N. Bondurant, Paxton.

Wednesday afternoon, 1:30 o'clock.

Address, The Farmer and His Son, F. A. Warner, Sibley; discussion, led by J. M. Miner, Guthrie; address, Domestic Science, or Better Methods in Our Homes, Mrs. Nora B. Dunlap, Savoy, Ill.; discussion, led by Mrs. W. C. Mottier, Gibson; address, Poultry Raising, From the Standpoint of a Farmer's Wife, Mrs. H. D. Young, Sibley; discussion, led by Will McKeever, Gibson; Agricultural Experience Class, led by Jas. Kirkpatrick, Clarence.

Wednesday evening, 7:00 o'clock.

Address (to be selected), Mrs. S. D. Culbertson, Piper City; address (to be selected), Miss Clara Ruby Steen, Paxton. A program of musical and literary numbers, rendered by the best talent obtainable, will be furnished. Program later.

Thursday, Feb. 1. Morning session, 9:30 o'clock.

Prayer, Father Cannon; address, Profit in Sheep Raising, W. T. Gash, Melvin, discussion, led by Geo. Arnott, Paxton; address, Cattle, Will McKeever, Gibson; discussion, led by Wm. Cox, Proctor; Agricultural Experience School, led by J. C. Steen, Paxton.

Afternoon session, 1:30 o'clock.

Address, Diseases of the Digestive Organs of Horses and Cattle, Prof. D. McIntosh, Champaign; discussion, led by Dr. J. W. Dickey, Gibson; address, Wastes on the Farm, Prof. P. G. Holden, Champaign; discussion, led by F. A. Warner, Sibley; report of Committee on Awards; report of Committee on Election and Location; election of delegates to State Institute.

Officers elected for the ensuing year—President, F. A. Warner, Sibley; secretary, J. H. Beagley, Sibley; treasurer, D. A. Taylor, Gibson City.

Average daily attendance, 300. Cost of Institute, \$105.03. Had a large exhibit of grains, dairy and kitchen products.

FORD COUNTY TOWNSHIP FARMERS' CLUB.

The sixth annual meeting of the Sullivan Township Farmers' Club was held in the town hall and opera house, Sibley, Ill., January 2, 3 and 4, 1900.

Officers—J. P. Trott, President; Charles Hays, Secretary; P. Munson, treasurer.

Program—Tuesday, January 2. Afternoon session, 1:30 o'clock.

Prayer, Rev. J. H. Hobbs; address of welcome, Mayor C. W. Holmes; president's address, Mr. J. P. Trott; reports of officers; general business; election of officers.

Wednesday, January 3. Morning session, 10 o'clock.

Corn, Mr. W. B. Mills, Mt. Palatine, Ill., discussed by Messrs. H. D. Young and S. H. Taylor.

Afternoon session, 1:30 o'clock.

Oats—Cultivation—Treatment of Seed, A. D. Shamel, University of Illinois, discussed by Messrs. Edw. Rudolph and John Franks; resolutions.

Thursday, January 4. Morning session, 10 o'clock.

Poultry, Miller Purvis, Lake Forest, discussed by Mrs. H. D. Young and Mrs. S. H. Taylor.

Afternoon session, 1:30 o'clock.

Spring vs. Fall Plowing, Mr. Miller Purvis, Lake Forest, discussed by Messrs. F. A. Warner and Wm. Rudolph.

There was a large exhibit of farm and culinary products, with liberal premiums offered in each class.

FRANKLIN COUNTY INSTITUTE.

Was held at Benton, November 16, 17 and 18, 1899.

Officers—President, William Hutchinson, Benton; secretary, Geo. M. Trout, Benton; treasurer, Carl Moore, Benton.



William Hutchinson, Benton.

Program, November 16, 9 a. m.

Opening song, Benton High School; prayer, Rev. I. S. Hicks; address of welcome, Mayor J. W. Swofford; response, Elder W. H. Carner.

The afternoon session will be given up to the ladies of the county. Program by Mrs. S. W. Swain, Mrs. R. H. Flannigan, Mrs. C. B. Huddelson.

November 17.

Song, Benton High School; prayer, Rev. C. A. Burton; Address to Farmers, W. R. Ward; General Farming, E. Richeson; discussion; Cultivation and Marketing Fruits, Mr. Eichelman; discussion; Small Fruits and Melons, C. M. Dixon; discussion, Truck Farming, A. M. Duncan; discussion; Gardening, T. S. White; discussion; Stock Raising, John W. Hill; discussion; Clover Raising, W. Thomas; discussion; Cow Peas and Soja Beans, John Martin; discussion; Packing and Shipping Fruits, J. M. Vancell, Rev. W. H. Carner; discussion; Improvement of Highways, J. Marshall Jones; discussion; Best System of Making Permanent Roads, M. P. Clayton; discussion; Poultry, T. S. Browning, Mrs. S. W. Swain, Mrs. J. B. Moore; discussion; general discussion.

November 18—Teachers' day.

Song, Benton High School; prayer, Rev. Thomas O. Holley; Address to Teachers, J. T. Chenault; Five Essential Points of Farming, James Hill, Jr.; Uphill Side of Farming, John R. Crawford; The Town Farmer, T. J. Myers; miscellaneous speaking by other teachers.

Officers elected for the ensuing year—President, W. H. Carner, Benton; secretary, Marshall McNeal, Benton; treasurer, C. Moore, Benton.

Average daily attendance, 250; cost, \$98.82. Had a general exhibit of farm products.

14TH CONGRESSIONAL DISTRICT FARMERS' INSTITUTE.

With Fulton County Farmers' Institute and Fulton County Domestic Science Association. Auditorium, Canton, Ill., January 9, 10 and 11, 1900. Oliver Wilson, Magnolia, Director 14th District.

Officers of Fulton County Farmers' Institute—President, C. C. McCutchen, Norris; Secretary, H. B. Rice, Lewistown; Treasurer, George Shawver, Lewistown.

Officers of Domestic Science Association—President, Mrs. Samuel Campbell, Lewistown; Secretary, Mrs. Cynthia Saville, Canton.

Program—Tuesday, January 9. Morning session, 9:30.

Music; invocation; welcome, Mayor W. D. Lewis, Canton; response, C. C. McCutchen, Norris, President of Fulton County Institute; music; Fellowship Among Farmers, J. A. Williams, Henry; Farmers' Organizations, Their Necessity and Benefit, Oliver Wilson, Institute Director for 14th Congressional district.

Afternoon session, 1:30.

Music: The Wastes on the Farm, Ira Cottingham, Eden, Peoria county; music; Sheep Husbandry, E. A. Wallace, Havana, Mason county; music; The Private Dairy and How to Make It Pay, J. H. Monrad, Winnetka, ex-Secretary Illinois Dairymen's Association.

Evening session, 7:30.

Music: Township High Schools, Alfred Bayliss, Springfield, Supt. of Public Instruction.

Wednesday, January 10. Morning session, 9:30.

Music; invocation: Swine Management, G. W. Trone, Rushville; music; Horses, F. J. Berry, Chicago.

Afternoon session, 1:30.

Music: Higher Education for Women as Regards Better Housekeeping and Homemaking, Miss Lina Brennemann, Minier; music; Nutrition, Mrs. W. S. Edwards, Lewistown; music.

Evening session, 7:30.

Music: Homemaking, Mrs. Gilbert Miller, Canton; music; Teaching Domestic Economy, Mrs. Nellie M. Kedzie, Bradley Polytechnic Institute, Peoria.

Thursday, January 11. Morning session, 9:30.

Invocation; music: Corn and Its Commercial Products, E. S. Fursman, El Paso; music; Modern Warehouses and Warehouse Men and Their Effects on the Prices of Grain, S. S. Turner, Minier.

Afternoon session, 1:00.

Music; Management of Meadow and Pasture Lands, A. P. Grout, Winchester; music: Breeding and Management of Beef Cattle, L. McWhorter, Aledo.

Opportunity for discussion will follow each topic on the program.

Thursday, 9:30 a. m.

Organization meeting of Fulton County Domestic Science Association in chapel adjoining the Auditorium. Mrs. H. M. Dunlap, Savoy, Illinois, will address the meeting.

Officers elected for the ensuing year: President, C. C. McCutchen, Norris; Secretary, M. H. Diehl, Leeseburg; Treasurer, Geo. Shawver, Lewistown.

Average daily attendance, 180. Cost of institute, \$125.01.



C. C. McCutchen, Norris.

GALLATIN COUNTY FARMERS' INSTITUTE.

Held at Shawneetown, March 27 and 28, 1900.

Officers—President, H. Ives, Shawneetown; secretary, George Hanlon, Shawneetown; treasurer, William A. Peeples, Shawneetown.

Program—Wednesday, March 27, afternoon session, 1:30 o'clock.

Music, orchestra; invocation, Rev. C. B. Whitesides; Good Roads, V. W. Smith; recitation, Miss Mabel Graier; Corn Raising, Henry Hill; music, orchestra; Insects Injurious to Orchards, G. F. Martin.

Evening session, 7:30 o'clock.

Music, orchestra; invocation, Rev. C. B. Whitesides; recitation, Miss Rose Roedel; Our Country Schools, Supt. W. S. Blackard; recitation, Miss Belle L. McFadden; The Better Development of Children, Dr. Daniel Berry, Carmi, Ill; Education for Farmers' Children, Mrs. L. N. Beal.

Thursday, March 28, morning session, 9 o'clock.

Invocation, Rev. C. B. Whitesides; music, orchestra; Sheep, J. K. Price; The Agriculture of the Future, Edward Schneider; recitation, Miss Lizzie Lowe; Hogs, Wm Pickles; Orchards, J. B. Hale; Coöperation by Farmers, —, Grandon.

Afternoon session, 1 o'clock.

Music, orchestra; Feeding Stock, Dr. Daniel Berry; Stock Feeding and Breeding, G. J. Hall; recitation, Miss Rose Roedel; Poultry, Geo. G. Rose; Fruit Growing, L. N. Beal, Mt. Vernon; Cattle, and Which to Buy, Geo. Huebner.

Officers elected for the ensuing year: President, H. Ives, Shawneetown; secretary, George Hanlon, Shawneetown; treasurer, William A. Peeples, Shawneetown.

Average daily attendance was small; cost of Institute, \$77.70.

GREENE COUNTY FARMERS' INSTITUTE.

Held at Court House, Carrollton, Ill., Tuesday and Wednesday, January 9-10, 1900.

President, J. G. Pope, Kane; treasurer, Donald Simpson, Jr., Carrollton; secretary, E. Zeno Curnutt, Carrollton.

Program Tuesday, January 9. Morning session, 10 o'clock.

Call to order, President J. G. Pope; prayer, Rev. R. J. Church; song, "America," audience; welcome address, Judge D. F. King; response, President J. G. Pope; topic, Poultry on the Farm, J. L. Haun, Beaucoup; discussion, H. M. Groce, Patterson; Frank Allen, Greenfield.

Afternoon session, 1 o'clock.

Topic, Good Roads Without Rocks, Sand or Gravel, C. H. Van Vleck, Philo; discussion, E. M. Husted, Roodhouse; Francis Fowler, White Hall; Piano Solo, N. M. Boggess, White Hall; topic, The American Horse Industry, Col. F. J. Berry, Chicago; discussion, J. K. Farrelly, Daum; Dr. H. S. Geer, Carrollton.

Evening session, 7:30 o'clock.

Music, Mandolin club; paper, Practical Rural Education, L. K. Jones, Patterson; vocal duet, Misses Lucie Miner and Anna Connoile; address, Elements of the High School, Prof. E. A. Thurnbill, Carrollton; music; Mandolin club.

Wednesday, January 10. Morning session, 10 o'clock.

Topic, Soja Bean and Cow Pea, A. A. Hinkley, Dubois; discussion, W. H. Bartlett, Jerseyville; music; topic, Corn Culture, F. D. Moulton, White Hall; discussion, W. B. Robinson, Carrollton.

Afternoon session, 1 o'clock.

Piano solo, Miss Ethel Davis, Carrollton; topic, Cattle Feeding and Grazing for Profit, John G. Imboden, Decatur; reading, Mrs. Howard Burns; topic, Type and Quality in Farm Stock, (illustrated) Hon. A. P. Grout, Winchester.

Evening session, 7:30 o'clock.

Music, Collins Bros.' Orchestra, Carrollton; topic, Horticulture, Henry Augustine, Normal; discussion, John A. Cannedy, Carrollton; reading, Miss Paula Wood; music, Collins Bros.' Orchestra; How to Decrease Pauper Aid Outside the County Alms House, W. A. Hubbard and Thomas Henshaw, Carrollton and A. M. Foreman, White Hall; music.

Officers elected for the ensuing year: President, C. I. McCallister, White Hall; secretary, M. B. Ross, White Hall; treasurer, Ed. North, White Hall.

Average daily attendance, 400; cost, \$95.

GRUNDY COUNTY FARMERS' INSTITUTE.

Held at Mason, January 24th and 25th, 1900.

Officers, President, Willis A. Clark, Carbon Hill; Secretary, Clara A. Harford, Verona; Treasurer, Fred Harford, Verona.

Program—Wednesday, January 24. Morning session, 10 a. m.

Song, Illinois; invocation, Rev. F. W. Imboden, Mason; business meeting and election of officers.

Afternoon session, 1:30 p. m.

Opening exercises, Rev. J. A. Buxton, Verona; president's address, Willis A. Clark, Carbon Hill; ladies' session, conducted by Mrs. Jennie Wheeler, Mason; vocal solo, Rev. E. L. Newport, Wauponsee; recitation, Miss Rita Winsor, Norman; paper, The Grace of Hospitality, Mrs. Lizzie A. Hawley, Gardner; discussion, Mrs. Ella Kingman, Mason; Miss Nellie Rose, Mason; instrumental solo, Miss Leda Winsor, Norman; paper, The Qualifications of a Farmer's Wife, Miss Nellie Ely, Mason; discussion, Mrs. Louise Walley, Aux Sable; Mrs. Myrtle Walker, Mason; Mrs. W. A. Clark, Carbon Hill; reading, Rev. E. L. Newport, Wauponsee; paper, The Housekeeper's Rights, Mrs. Belle Walsh, Wauponsee; discussion, Mrs. J. K. Ely, Mason; Mrs. F. H. Murray, Mason; Mrs. Ed. Cryder, Morris; vocal solo, Mrs. Louise Walley, Aux Sable.

Evening session, 7 p. m.

Vocal solo, Rev. E. L. Newport, Wauponsee; invocation, Rev. Hoyt, Mason; reading, Charles Elyes, Wauponsee; address, Farm Home, E. S. Fursman, El Paso; music.



Willis A. Clark, President.

Thursday, January 25. Morning session, 9:30.

Opening exercises, Rev. Miller, Mason; paper, Landlord and Tenant, J. H. Rogers, Morris; discussion, J. L. Waterman, Verona; F. H. Murray, Mason; E. Walworth, Mason; music; address, Agricultural Education, E. Davenport, Urbana.

Afternoon session, 1 o'clock.

Opening exercises, Rev. E. L. Newport; paper, Fellowship Among Farmers, George Wheeler, Mason; question box; address, Work and Mission of Farmers' Institutes, G. A. Willmarth, Seneca; music.

Officers elected for the ensuing year: President, Willis A. Clark, Carbon Hill; Secretary, Mrs. Clara A. Harford, Verona; Treasurer, Fred Harford, Verona.

Average daily attendance, 175. Cost, \$43.45.

NOTE—Fifteen minutes will be allowed for papers and five minutes each for those discussing them. Discussions are open to all.

HAMILTON COUNTY FARMERS' INSTITUTE.

The Hamilton County Farmers' Institute holds quarterly meetings besides the annual meeting, which was held at McLeansboro November 16 and 17, 1899.

Officers—President, M. A. Hooker, McLeansboro; secretary, Ed. H. Bowen, McLeansboro; treasurer, John C. Hall, McLeansboro.

Program—Thursday morning.

Call to order by the president, M. A. Hooker, McLeansboro; address of welcome by the city mayor, J. S. Sneed, McLeansboro; response by the president, M. A. Hooker, McLeansboro; reading minutes by the secretary, E. H. Bowen, McLeansboro; report of treasurer, John C. Hall, McLeansboro; general discussion on Institute work, M. A. Hooker, McLeansboro; adjourn until 1 o'clock.

Afternoon session.

March, La Fiesta, Roncovieri, Orpheus Mandolin and Guitar Club; subject, A Mistake I Made and the Lesson I Learned from It, George K. Edwards, McLeansboro; Cooperation Among the Farmers, Col. Chas. F. Mills; discussion; Modern Corn Culture, C. M. Hall, Dahlgren; discussion, Making an Orchard, What to Do and What Not to Do, and Why (illustrated), F. L. Williams, Tamaroa; discussion; adjournment.

Evening session, 6:30 o'clock.

March, The Charlatan, Sousa, Orpheus Mandolin and Guitar Club; song, Miss Effie G. Yates, McLeansboro. Effects of Rural Influences on Moral Character. A premium of five dollars (\$5.00) will be given the farmer's girl under 21 years of age who will write the best article on above topic. Contestants must actually reside on a farm in Hamilton county. Two dollars and fifty cents (\$2.50) will be given for the second best article, same conditions as above. Recitation, Miss Jessie Snyder, McLeansboro; overture, Emergency, Fogg, Orpheus Mandolin and Guitar Club. The Education of Farm Life. A premium of five dollars (\$5.00) will be given to the farmer's boy under 21 years of age who will write the best article on above topic. Contestants must actually reside upon a farm in Hamilton county. A premium of two dollars and fifty cents (\$2.50) will be given for the second best article. Same conditions as above. Operatic selection, The Recall, Eaton, Orpheus Mandolin and Guitar Club.



M. A. Hooker, McLeansboro.

Friday morning session.

Orcharding, L. N. Beal, Mt. Vernon; discussion; Mistakes and Leaks on the Farm, John W. Mitchell, Crouch township; discussion; Farming as a Vocation, Miss Jessie Snyder, McLeansboro; recitation, Miss Mamie Daily, McLeansboro; adjourn until 1 o'clock p. m.

Afternoon session.

March, Salvator, Hans S. Line, Orpheus Mandolin and Guitar Club; Domestic Science—Mrs. Nellie Kedzie, Peoria; discussion; Preserving and Restoring Fertility of the Soil, J. M. Weldin, McLeansboro; discussion; Marketing Farm Products, R. I. Bartlett, Dahlgren; discussion.

Officers elected for the ensuing year: President, M. A. Hooker, McLeansboro; secretary, Ed. H. Bowen, McLeansboro; treasurer, John C. Hall, McLeansboro.

Average daily attendance, 1,000; cost, \$119.09.

HANCOCK COUNTY FARMERS' INSTITUTE.

Held at Bowen, Illinois, October 20-21, 1899.

Officers—W. B. Marvel, President, Carthage; Walter Vanzile, Secretary, Carthage; C. N. Dennis, Treasurer, Hamilton.

Program, Friday afternoon.

Paper—What is the Matter with the Butter? L. A. Powell, Bowen; discussion; paper—The Past, Present and Prospective Future Outlook for Farm Lands in Hancock County, J. Culklin, Carthage; discussion; paper—Diversified Farming, S. M. Black, Clayton; discussion.

Friday evening.

Music; song; recitation; song; lecture—Farm Homes, E. S. Fursman, El Paso, Ill.; President Illinois Corn Growers' Association.

Saturday morning.

Address—Grain vs. Stock Farming, I. N. Hosford, Hamilton; discussion; address—What I Learned at the Farmer's Congress, G. W. Dean, Adams, Ill.; paper—The Beef Animal from Calif until Marketed, G. W. Shinkle, Denver, Ill.; discussion opened by J. Farlow, Augusta; song.

Saturday afternoon.

Song; recitation; address—Corn Culture and its Commercial Products, E. S. Fursman, El Paso; Paper—The Farmer's Garden, J. B. Frisby, Mendon; discussion; question drawer.

Second meeting held at Town Hall, Hamilton, evening session held in the Christian Church, Mrs. A. D. Barber, presiding officer, February 16 and 17, 1900.

February 16, afternoon session.

Invocation; address of welcome, R. R. Wallace, Hamilton; response, Pres. W. B. Marvel, Carthage; The Meadow, its care and Preparation of its products for market, L. B. Clark, Elvaston; discussion, Jno. C. Pierce, Bowen; Sheep Industry, E. S. Franks, Clayton; discussion, W. A. Moore, Elvaston; Grapes, culture and marketing, C. P. Dodant, Hamilton; discussion, S. N. Black, Clayton; question box.

Evening session.

Music—Instrumental; song; Domestic Science, Mrs. C. M. McMillen, Denver; recitation; Nursing the Sick, Miss Ella Sheets, Carthage; song; Wholesome Foods, Mrs. Lucy B. McMillen, Mt. Sterling.

Saturday, February 17, morning session.

What the State Institute Proposes to Do for the County Institute, G. W. Dean, Adams; Hogs and cattle, Adjuncts of the Farm, I. N. Hosford, Hamilton; discussion, Jno Jackson, Niota; The Past, Present and Future Outlook for Farm Lands in Hancock County, Jno. Culklin, Carthage; election of officers; transaction of business.

Afternoon session.

How Does, and Might the Farmers' Institute Benefit the Farmers? S. N. Black, Clayton; Farm and Market Gardening, J. B. Frisbie, Jr., Mendon; Clover Culture, E. L. Grosh, Camp Point.

Officers elected for the ensuing year—President, W. B. Marvel, Carthage; Secretary, Walter Vanzile, Carthage; Treasurer, C. N. Dennis, Hamilton.

Average daily attendance, 150; Cost of the two meetings \$36.66.

HARDIN COUNTY FARMERS' INSTITUTE.

Held at Cave-in-Rock, November 2 and 3, 1899.

Officers—President, G. W. Hill, Cave-in-Rock; secretary, W. H. Casad, Elizabethtown; treasurer, Martin Elchorn, Elchorn.

Program—First day, November 2; morning session, 10 o'clock.

Invocation; address of welcome, W. T. Blakeley, Cave-in-Rock; response, J. Q. A. Ledbetter, Elizabethtown; Benefits of Farmers' Institutes, L. N. Beal, Mt. Vernon.

Afternoon session—1:30 o'clock.

Stock Feeding and the Value of Food, W. C. Davis, Fairfield; Wheat Culture, M. L. Tyer, Cave-in-Rock; Raising Hogs for Profit, R. H. Hill, Cave-in-Rock; Sheep Raising, J. A. Oxford, Elizabethtown; question box

Evening session—7 o'clock.

To be given by the pupils and patrons of the public school of Cave-in-Rock.

Second day, November 3; morning session, 10 o'clock.

Invocation; Corn Culture, W. J. Hall, Lamb · Clover and the Grasses, Judge John Tyer, Cave-in-Rock; Poultry on the Farm, William Mason, Cave-in-Rock; question box: discussions.

Afternoon session—1:30 o'clock.

Address—Horticulture, L. N. Beal, Mt. Vernon; The Future of Agriculture, E. Schneider, Saline Mines; discussions; election of officers.

Officers elected for the ensuing year—President, M. L. Tyer, Cave-in-Rock; secretary and treasurer, Edward Schneider, Saline Mines.

Average daily attendance, 65; cost, \$94.

HENDERSON COUNTY FARMERS' INSTITUTE.

Held at Media, October 18 and 19, 1899.

Officers—President, H. W. Stewart, Biggsville; secretary, J. Cecil Brooks, Biggsville; treasurer, J. Cecil Brook, Olena.

Program—Wednesday forenoon.

Music; prayer, Rev. J. E. Bradford; address of welcome, Prof. H. W. Bowersmith; paper, Success With Hogs, Ed L. Claybaugh; paper, The Farmers' Ice House, Henry Cowden; paper, Celery Culture, Mrs. John Y. Whiteman; paper, Hired Help on the Farm, Rodney Gove.

Wednesday afternoon.

Song, Maud Allison; paper, The Farmer's Daughter, Her Responsibilities and Opportunities, M. Jeannette Annegers; paper, Experiences and Observations in Horticulture, Apple and Stone Fruits, W. T. Weir; Grapes and Berries, John Foster; paper, Save the Pieces, Miss Laura Patterson, Belleville; paper, Department Stores, Village Merchant, T. A. Nichols; Consumer, Ralph Marshall; discussion led by H. L. Kelly; talk, The New Tax Law, Hon. J. W. Gordon.

Wednesday evening, October 18.

Talk, The Farmers' Home, Rev. G. W. McCracken; declamation, Miss Grace Smith; song, Stronghurst Male Quartette; song, members of Biggsville High School; recitation, Prof. W. P. Chalfant; song, Stronghurst Ladies' Quartette; declamation, Miss Maude Eldery; song, male quartette; recitation, Miss Blanch Rankin; declamation, Nora Lyons; song, male quartette; reading, Miss Nellie Zade Leacock; song, male quartette; declamation, Miss Maude McIntosh; song, Biggsville High School.

Thursday morning.

Prayer, Rev. G. W. McCracken; song; paper, The Draft Horse, John Huston, Blandinsville; paper, The Driving Horse, David A. Whiteman; paper, What the Agricultural Department is Doing for the Farmer, J. Wesley Rankin; paper, Beekeeping for Ladies, Mrs. L. C. Axtell, Roseville; recitation, Miss Nellie Z. Leacock; paper, Woman's Work in the House and Her Help, Miss Anna E. Hughes, Kirkwood; paper, The Farmer's Telephone, Ralph W. Rankin.

Thursday afternoon.

Paper, Hints on Butter Making, Mrs. Amelia Maynard; talk, Temperance in the Home, Mrs. Finch; paper, The Culture of Corn, John Huston, Blandinsville; talk, Insects Injurious to Crops, Prof. Forbes, of the State University at Champaign, State Entomologist; election of officers; Farm Insurance, Chas. M. McMillan, Denver.

Discussions on all subjects will be allowed. Persons are encouraged to bring samples of grain and other articles worthy of exhibition, for which small premiums will be offered. Not less than twenty-five ears of corn nor less than a half bushel of grain can be entered for a premium.

Officers elected for the ensuing year: President, H. W. Stewart, Biggsville; secretary, J. Wesley Rankin, Biggsville; treasurer, David A. Whiteman, Biggsville.

Average daily attendance, 150; cost of Institute, \$72.51.

TENTH CONGRESSIONAL DISTRICT FARMERS' INSTITUTE.

Under the auspices of the Henry County Farmers' Institute, in the Opera House, Woodhull, February 14, 15, 16, 1900. J. H. Coolidge, Director 10th District, Galesburg.

Officers of Henry County Farmers' Institute: President, W. C. Stickney, Woodhull; vice president, Thos. Cain, Woodhull; secretary, Robt. J. Forgy, Woodhull; treasurer, C. E. Houghton, Woodhull.

Program—Wednesday, February 14. Morning session, 10 o'clock.

Music: invocation, Rev. J. P. McCormick, pastor of M. E. Church, Woodhull; address of welcome, C. C. Shaw, mayor of Woodhull; response, W. C. Stickney, president Henry County Farmers' Institute, Woodhull; appointment of committees; receiving and arranging of exhibits; all must be in by 3 o'clock the first day of the institute.

Afternoon session, 1:30 o'clock.

Music: Cattle Feeding, Otis Hoyt, Geneseo; Melvin Anderson, Andover; Does Sheep Raising Pay, R. C. Hanlon, Nekoma; reports of committees; election of delegates.

Evening session, 7:30 o'clock.

Music: recitation, Miss Jennie Reynolds, Oneida; The Ideal Farm Home, Mrs. S. A. Gamble, Woodhull; vocal music; Butter Making, Mrs. F. H. Hammond, Oneida; Sorghum Under New Methods, S. J. Bolton, Alpha; instrumental music; Flowers on the Farm, Miss Alice Crawford, Woodhull.

Thursday, February 15. Morning session, 9:30 o'clock.

Music: invocation, Rev. Grant Stroh, pastor of Presbyterian church, Woodhull; Cattle Breeding, Robert J. McCahon, Orin; Adaptability of the Horse to the Farmer, Dr. N. H. Lowry, Woodhull; Small Fruit on the Farm, Wirt Bros., Alpha.

Afternoon session, 1:30 o'clock.

Music: Corn Culture, Prof. P. G. Holden, Urbana, professor of Agriculture Physics, University of Illinois; discussion, led by Jerry Hanlon, Galva; The Maize Propaganda, or the Introduction of Corn into Foreign Countries, Clark E. Carr, Galesburg.

Evening session, 7:30 o'clock.

Music: recitation, Miss Laura Shelter, Woodhull; Farm Improvements, D. H. Kelleher, Orin; vocal music; best answer to question asked by president at 30 seconds' thought; recitation, Mrs. Horace Simmons, Woodhull; Poultry, Fred Hand, Cambridge; instrumental music; Chestnuts, A. A. Mackey, Woodhull; paper, Fun on the Farm, Miss Mary C. Maher, Woodhull.

Friday, February 16. Morning session, 9:30 o'clock.

Music: invocation, Rev. G. A. Swanburg, pastor of Evangelical Lutheran church, Woodhull; Breeding and Management of Swine, G. A. Willmarth, Seneca, president Illinois Farmers' Institute; Farm Orchard, J. Friend, Nekoma; Institute Extrusion, John Miller, Galva.

Afternoon session, 1:30 o'clock.

Music: Water for the Farm, Wm. Tracy, New Windsor; Farmers' Organizations, their Necessities and Benefits, Oliver Wilson, Magnolia; Good Roads, Lloyd Z. Jones, Galva; Improved Public Highways, B. F. Woollums, Woodhull. The following topics will be discussed during the institute as time permits: Farm Telephones, Clover and Broom Corn.

Officers elected for the ensuing year: President, Daniel Keller, Sr., Orin; secretary, Robert J. McCahon, Orin; treasurer, George Furgeson, Orin.

Average daily attendance, 500. Cost, \$115.71.

Had an exhibit of grains, vegetables, fruit culinary and art.



W. C. Stickney, Woodhull.

IROQUOIS COUNTY FARMERS' INSTITUTE.

The annual meeting was held at Clifton, January 17 and 18, 1900.

Officers—President, C. E. Foster, Watseka; Secretary, Monroe Garrison, Watseka; Treasurer, H. C. Center, Watseka.

Program—Wednesday morning, 9:30 o'clock.

Prayer, Rev. F. H. Brown, Clifton; music, Clifton Orchestra; address of welcome, C. E. Johnson, Clifton; response, President; address, Corn Culture, E. S. Fursman, President Illinois Corngrowers' Association, El Paso, Ill.

Wednesday afternoon, 1:30 o'clock.

Music, Clifton Orchestra; song, Dr. A. B. Stiles, Clifton; address, Illinois Agriculture Comparatively Considered, Hon. F. M. Crangle, Watseka; song, H. M. R. S. Quartet, Ashkum; address, Col. F. J. Berry, President American Horse Breeders' Association, Chicago; vocal solo, Mrs. J. C. Gleason, Clifton; music, Clifton Orchestra.

Wednesday evening, 7:30 o'clock.

Music, Clifton Orchestra; vocal solo, I'd Like to Hear That Song Again, Miss Belle Chapman, Clifton; recitation, Eugene L'Hote, Milford; address, Farm Homes, E. S. Fursman, El Paso, Ill.; cornet solo, Chas. Trimble, Clifton; vocal solo, Miss Kurbasch, Kankakee; piano duet, Miss Elliott, Kankakee, Mrs. C. B. Sill, Clifton.

Thursday morning, 9:30 o'clock.

Prayer, Rev. D. McLeish, Clifton; music, Columbia Orchestra, Clifton; location of next institute; election of officers; report of committee on awards; address, General Farming, Chas. H. Dulton, Dolton Station, Ill.

Thursday afternoon, 1:30 o'clock.

Song, Illinois, Peotone Quartet, Peotone, Ill.; address, Diseases of Horses and Cattle, Dr. D. McIntosh, University of Illinois; song, Peotone Quartet; vocal solo, Dr. A. B. Stiles; song, Peotone Quartet; question box.

Thursday evening, 7:30 o'clock.

Music, Columbia Orchestra; song, Peotone Quartet; piano solo, R. R. Meents, Ashkum; address, The Country School, Prof. Alfred Bayliss, State Supt. Schools, Springfield; song, Peotone Quartet; recitation, W. H. Sellers, Clifton; vocal solo, The Old Barn Window, Mrs. R. F. Cummings, Chicago; short talks by early settlers.

Officers elected for the ensuing year: President, C. E. Foster, Watseka; Secretary, Monroe Garrison, Watseka; Treasurer, N. C. Center, Watseka.

Average daily attendance 500. Cost of Institute, \$206.00. Had a large exhibit, consisting of grains, poultry and culinary products.

JACKSON COUNTY FARMERS' INSTITUTE.

Annual meeting was held at Court House, Murphysboro, Monday and Tuesday, October 23 and 24, 1899.

Officers—President, H. G. Easterly, Murphysboro; secretary, W. W. Thomas, Makanda.

Program—Monday, October 23—Morning session.

Music: invocation; address of welcome, Mayor I. W. Ellis; response, President H. G. Easterly, Carbondale; Raising Potatoes Under Straw, J. M. Schroeder, Murphysboro; Live Stock in Southern Illinois, J. C. Glenn, Champaign; Cow Peas as a Fertilizer, J. W. Stanton, Richview.

Afternoon session.

How to Increase and Maintain Fertility of Soil, Norman J. Coleman, St. Louis; lecture, with charts—Injurious Insects, Prof. G. H. French, Southern Illinois Normal, Carbondale; Farmers' Reading Matter, T. J. Cross, Campbell Hill.

Evening session.

Music; address of Ladies' Domestic Science Society; lecture—Woman's Work in Farmers' Institutes, Laura Patterson Lee, Belleville; music.

Tuesday, October 24—Morning session.

Music; Apples for Jackson County, T. W. Thompson, Carbondale; Diseases of Horses and Cattle, Dr. Armstrong, Carbondale; Agricultural Education, Prof. E. Davenport, Champaign; Truck Farming, Ed. Worthen, Murphysboro, C. M. Linn, Grand Tower; election of officers; perfecting organization.

Afternoon session.

Fruit Growing, Orchards, Etc., J. W. Stanton, Richview; What Can a Woman Do on the Farm?—Prof. E. Davenport, Champaign; Dairying on the Farm, John F. Hanna, Orville; Wheat Culture, J. L. Miller, Murphysboro.

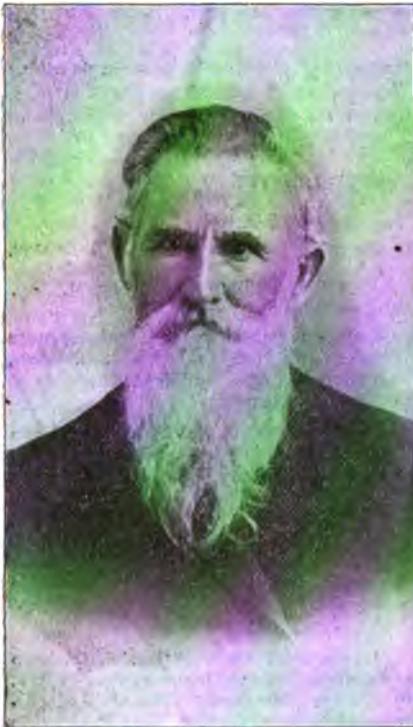
Officers elected for the ensuing year—President, H. G. Easterly, Carbondale; secretary, H. L. Graft, Murphysboro; treasurer, Ed. Worthen, Murphysboro.

Average daily attendance, 200; cost, \$60.50.

JASPER COUNTY FARMERS' INSTITUTE.

Held in the Court House, Newton, Ill., Thursday and Friday, November 23 and 24, 1899.

Officers—President, Wm. E. Barrett, Lis, Ill.; vice-president, J. M. Geddis, Newton, Ill.; secretary and treasurer, A. A. Nees, Newton, Ill.



W. E. Barrett, Newton.

Program—Thursday, November 23, 10:00 a. m.

Song service and invocation; welcome address. Hon. Geo. W. Fithian, city mayor of Newton; response, J. M. Geddis, vice-president, Newton; paper, Corn, Its Culture and Marketing, Wm. Yantis, Wheeler; discussion, (a) Preparation of the Soil; (b) Method of Culture; (c) Marketing of the Same; The Work and Mission of Farmers' Institutes, Hon. G. A. Willmarth, President State Institute, Seneca; paper, How to Keep the Boys on the Farm, Daniel Moffit, Newton.

The night session will be conducted by Prof. E. B. Brooks, principal of the Newton High School.

Songs, recitations and addresses; paper, The Farm as an Educator, Charles Bevis, teacher in the High School, Newton.

Friday, November 24, 10:00 a. m.

Opening exercises; paper, Cultivation of the Grasses, P. H. Lambert, Latona; discussion, (a) Marketing of the Same; (b) Its Effect on the Soil; Better Methods in Our Homes, and Work of the Domestic Science Association, Mrs. Joseph Carter, Champaign, President of Illinois Association of Domestic Science; paper, The Ideal Home, and Adornment of the Same, Mrs. Peter Jackson, Bogota; paper, Horticulture, J. V. Kraus, West Liberty; paper, The Farmer as a Citizen, A. E. Isley, Newton; paper, Good Roads Without Stone or Gravel, T. J. Adkins, Newton; paper, Sheep Husbandry, Ira Vance, Willow Hill; paper, Don'ts on the Farm, Phil Mason, Wheeler.

Officers elected for the ensuing year: President, Geo. W. Larrabee, Willow Hill; secretary and treasurer, A. A. Nees, Newton.

Average daily attendance, 50; cost \$69.75.

JEFFERSON COUNTY FARMERS' INSTITUTE.

The annual meeting was held in the Court House, Mt. Vernon, Ill., Wednesday and Thursday, Nov. 15-16, 1899.

Officers—President, L. N. Beal, Mt. Vernon; secretary and treasurer, John R. Piercy, Mt. Vernon.

Program, Wednesday, November 15. Morning session, 9 o'clock.

Song, Mt. Vernon Quartette; song, Rev. J. D. Hooker's Quartette; song, America, by all; opening address, Mayor G. F. M. Ward; song, Mt. Vernon Quartette; response, Rev. D. J. Hooker, Mt. Vernon; solo, Miss Florence Tanner, Mt. Vernon; address, L. N. Beal, Vice-President State Farmers' Institute, Mt. Vernon; song, Hooker's Quartette.

Afternoon session, 1 o'clock.

Song, The Hand that Holds the Bread, Mt. Vernon Quartette; address, Corn and Oats, and How to Grow Them, Prof. Holden, Champaign; song; address, How to Utilize Our Corn Crop to the Best Advantages, Senator J. T. Payne, Mt. Vernon; song.

Evening session, 7 o'clock.

Song, Mt. Vernon Quartette; song, Master Tom and Miss Mattie Moss, Mt. Vernon; violin duet, Master Rex Rober and Miss Nellie Junker, Mt. Vernon; declamation, Master Tom Moss, Mt. Vernon; song, Hooker's Quartette; address, Prof. Holden, Urbana; song; violin solo, Miss Nellie Junker, Mt. Vernon; declamation, Miss Mattie Moss, Mt. Vernon; song; declamation; violin duet, Master Rex Rober and Miss Nellie Junker; song.

Thursday, November 16. Morning session, 9:30 o'clock.

Song, Mt. Vernon Quartette; paper, How to Set and Grow Fruit Stock, Nelson Smith, Mt. Vernon; song; paper, How to Give Your Children a Practical Education, J. M. Hill, County Superintendent of Schools, Mt. Vernon; song; paper, Why Can't We All Succeed? John R. Piercy, Mt. Vernon; song.

Afternoon session, 1 o'clock.

Song; address, Mrs. Nellie Kedsie, Peoria; song; paper, The Rural Home, Mrs. Jeff Heltsclaw, Mt. Vernon; song; paper, The Woman as a Helper, Mrs. Oscar Maxey, Mt. Vernon; song.

Officers elected for the ensuing year—President, S. T. Maxey, Mt. Vernon; secretary and treasurer, L. N. Beal, Mt. Vernon.

Average daily attendance, 300. Cost, \$96 29.

JERSEY COUNTY FARMERS' INSTITUTE.

The annual meeting was held at Jerseyville, January 11 and 12, 1900.

Officers: President, Spencer Wycoff, Delhi; secretary and treasurer, J. W. Becker, Jerseyville.



Spencer Wycoff, Delhi.

Program—Thursday, January 11, 1900, morning session.

Opening remarks, President Spencer Wycoff; Poultry on the Farm, J. L. Hann, Beaucoup, Ill.; general discussion.

Afternoon session.

Appointment of committees; Farm Horticulture, Henry Augustine, Normal, Ill.; general discussion led by E. A. Riehl, Alton; Does Our Community Want a Canning Factory?; Cattle Feeding and Grazing for Profit, John G. Imboden, Decatur, Ill.; Shall We Continue to Raise Wheat, discussion led by C. B. Bartlett, Delhi; awarding of township premiums.

Evening session.

Music, Pointer's orchestra, violin, harp and cornet; Present Opportunities, Prof. J. Pike, Jerseyville; music, Pointer's orchestra, violin, harp, cornet; Does Jerseyville Need Manufacturing Establishments, Maj. W. E. Carlin; general discussion led by Hon. Thos. F. Ferns; music, Pointer's orchestra, violin, harp, cornet.

Friday morning session.

Soja Beans and Cow Peas, Anson A. Hinckley, DuBois, Ill.; general discussion led by W. H. Bartlett, Delhi; Points on Raising Corn, Chas. Updike and Eph. Giberson, Jersey county; general discussion; Farmers' Mistakes, D. I. Duncan, Selma, Ind.

Afternoon session.

Awarding prizes on essays; Agricultural Education, Pres. G. A. Willmarth, Seneca, Ill.; address, Type and Quality in Farm Stock (illustrated), A. P. Grout, Winchester, Ill.; Free Rural Delivery, general discussion; election of officers.

Officers elected for the ensuing year: President, Spencer Wycoff, Delhi; secretary and treasurer, J. W. Becker, Jerseyville.

Average daily attendance, 300; cost, \$100.85. Had an exhibit of farm products.

JO DAVIESS COUNTY INSTITUTE.

The annual meeting was held at Stockton January 18 and 19, 1900.

Officers: President, Freeman Laufer, Stockton; secretary, R. A. Oliver, Stockton; treasurer, John Dallyn, Galena.

Program—Thursday, January 18, 10:00 a. m.

Prayer, Rev. Wm. Caton; music; Sheep for Profit, Wm. Skene, Derinda; Horticulture, Chas. Simmons, Ward's Grove; Rural Free Mail Delivery, W. G. Curtis, Ward's Grove; discussion; music, Prof. Hoefle; The Farmer as a Citizen, John Dallyn, Galena; Dairyman and Mistakes in Dairying, S. H. Wright, Elgin; Raising and Feeding Beef Cattle, Chas. Speer, Hanover; discussion.

Evening, 7:00 o'clock.

Address of welcome, M. K. Hammond; response, G. W. Curtiss; music; organization of Institute and appointment of committees; recitation, Lulu Townsend; violin solo; five minute volunteer speeches; music; answers to questions from query box.

Friday, January 19, 10:00 a. m.

Waste on the Farm, P. G. Holden, Urbana; Swine Husbandry, E. W. Monnier, Elizabethtown; discussion; music, Prof. Hoefle; Domestic Science, Mrs. Nellie Kedsle, Peoria; Poultry for Profit, W. A. Scotchbrook, Stockton; Need of More Self-Reliance among Farmers, Mrs. A. A. Simmons, Greenville; Beets for Profit, Wm. Skene, Derinda.

Officers elected for the ensuing year: President, P. M. Rindesbacher, Stockton; secretary and treasurer, R. A. Oliver, Stockton.

Average daily attendance, 400; cost, \$75.

Next Institute at Stockton, January 17 and 18, 1901.



Freeman Laufer, Stockton.

JOHNSON COUNTY INSTITUTE.

Johnson county held two institutes during the year.

Officers—President, W. J. Casper, New Burnside; secretary, J. C. B. Heaton, New Burnside; treasurer, D. W. Mathis, Vienna.

Monday, November 6, morning session, 10 o'clock.

Music; invocation, Elder E. B. Timmons, New Burnside; opening address, H. G. Eastery, Carbondale, director of 22d Congressional district; How to Manage Bees, Dr. W. R. Mizell, New Burnside; Public Roads—How to Build Them, J. W. Heaton, Sr., New Burnside; How to Repair and Keep Them, F. W. Capman and others, New Burnside.

Afternoon session, 1:30 o'clock—Session of Ladies' Domestic Science Society.

Music; organization; lecture, Laura Patterson, Belleville; What Can Woman Do On the Farm? Mrs. W. J. Casper, New Burnside; discussion of topics covered.

Evening session, 7:30 o'clock.

Should Agriculture be Taught in Our Public Schools? Miss Sarah J. Whittenberg, county superintendent public schools, Vienna; Home Government, Mrs. B. S. Kenneda, Spreckels, Cal.; The Farm as a Means of Early Training, Mrs. G. B. Murrah, president Creal Springs College, Creal Springs; paper, Save the Pieces, Laura Patterson, Belleville.

Tuesday, November 7, morning session, 9 o'clock.

The Farmer as an Experimenter, T. M. Cavitt and T. B. Reynolds, Ozark; Waste on the Farm, Mark Whittaker, Helknap; How to Prevent, D. F. Beaumann, Tunnel Hill; The Breeding and Management of Swine, G. A. Willmarth, president Illinois Farmers' Institute, Seneca; Commercial Fertilizer, F. M. Wright and W. J. Casper, New Burnside; Clover and Peas as Feed and Fertilizer, Moses Pickle, Regent, and J. F. Casper, Ozark.

Afternoon session, 1:30 o'clock.

The Work and Mission of Farmers' Institutes, G. A. Willmarth, president Illinois Farmers' Institute, Seneca; Poultry, Mrs. T. B. Reynolds, Ozark, and Mrs. W. J. Casper, New Burnside; Cattle Raising in Johnson County, Norman J. Mosley, Vienna; The Fruit and Vegetable Interests of Johnson County and How to Develop Them, Hon. Pleas. T. Chapman and Hon. T. H. Sheridan, Vienna; general discussion; question box.

Tuesday, March 27, morning session, 9 a. m.

Music; invocation, Rev. E. B. Timmons, New Burnside; Why We Hold This Institute Now, T. S. Ballance, New Burnside; Best General Purpose Cattle, D. T. Beauman, Tunnel Hill; discussion, U. J. Moseley, Vienna; Farm Waste and How to Utilize It, R. R. Ridenhour, Vienna, J. W. Edmonson and T. S. Ballance, New Burnside.

Afternoon session, 1:30 p. m.

Music; Our Hill Land—How to Keep Up Fertility, D. T. Beauman, Tunnel Hill, U. J. Mosely, Venice, and J. W. Heaton, Jr., New Burnside; discussion; Poultry—Care and Management, Mrs. G. P. Calhoun, New Burnside; Poultry for Profit, C. L. Gingrich, Ozark; Cow Peas vs. Clover for Feed and Fertility, J. W. Stanton, Richview, president Southern Illinois Horticultural Society; discussion; recitation, Miss C. A. Hardwick, professor of elocution and calisthenics of Creal Springs College, Creal Springs.

Evening session, 7 p. m. In charge of Domestic Science Club.

Music; invocation, Rev. E. B. Timmons, New Burnside; address, Mrs. G. B. Murrah, president Creal Springs College, Creal Springs; recitation, Miss Zora Phillips, New Burnside; paper, Mrs. D. E. Clymer, New Burnside; recitation, I'm Only a Little Fellow, Harry Yates, New Burnside; paper, Mrs. C. B. Parker, New Burnside; recitation, Miss C. A. Hardwick, Creal Springs; Influence of the School and House in the Formation of Character, Miss Sarah J. Whittenberg, county superintendent of schools, Vienna; recitation, That Country Sweetheart of Mine, Mrs. A. Alsbrook, New Burnside; paper, Miss Edith Burris, Vienna; recitation, Miss C. A. Hardwick, Creal Springs; music; dismissal, Rev. G. Landerdale.

Wednesday, March 28, morning session, 9 a. m.

Music; invocation, Rev. G. Landerdale, New Burnside; Orchard Cultivation, R. W. Stanton, Richview, and Rev. W. W. Woodside, Creal Springs; discussion; Our Fruit and Vegetable Interests and Their Development, Levi Terrill, Creal Springs, Hon. T. H. Sheridan and R. R. Ridenhour, Vienna, and J. W. Stanton, Richview; discussion; Transportation and Marketing of Fruits and Vegetables, H. L. Musseman, traveling transportation agent C. C. & St. L. R. R., St. Louis, Mo.; discussion; dismissal, Rev. E. B. Timmons.

Afternoon session, 1:30 p. m.

Spraying—How, Why and When, Prof. J. C. Blair, assistant horticulturalist State University, Urbana; Practical Lesson in Spraying, by Going into the Orchard and Showing How the Work is Done, Prof. J. C. Blair, Urbana.

Officers elected for the ensuing year: President, W. J. Casper, New Burnside; secretary, J. C. B. Heaton, New Burnside; treasurer, D. W. Mathis, Vienna.

Average daily attendance, 125. Cost, \$34.25 first meeting; \$36.34 second.

KANE COUNTY INSTITUTE.

The annual meeting was held at Geneva, February 6, 7 and 8, 1900.

Officers: President, R. J. McCormack, Geneva; secretary, C. P. Dutton, Geneva; treasurer, Henry McGough, Burlington.

Program—February 6, 1900, 9:30, a. m.

Prayer, Rev. W. B. Millard, Geneva; address of welcome, D. J. Hogan, mayor, Geneva; response, Hon. John Stewart, Campton; music (piano, violin, flute), Mrs. C. H. Cutter, Miss Blanche Cutter, Cyra Cutter, Aurora; Sanitary Care of Swine, James Riley, Thorntown, Ind.; discussion, Fred Belden, Kaneville; S. W. Meyers, Joseph Ingham and Mr. Wilson, Sugar Grove; recitation, Miss Emma Schneider, North Aurora.

1:30 p. m.

Music, violin solo, selected, Tracey Holbrook, Batavia; address, The Weather Bureau and Its Work, Prof. C. E. Linney, Springfield; Corn Culture, James Riley, Thorntown, Ind.; discussion; Poultry for Profit, B. F. Wyman, Sycamore; discussion, John DeLancey, Elgin; George Peck, Geneva; song, J. M. Shaw, Geneva.

Evening session, February 6, 7:30 p. m.

Music, piano solo, Mae L. Dutton, Geneva; address, Genius, Rev. Ernest Wray O'Neal, Aurora; song, Miss Luella Skinner, Elgin; recitation, Miss Alice McCormack, Geneva; music, violin solo, selected, Tracey Holbrook.

February 7, 9:30 a. m.

Music, piano duet, Misses Daisy Demmer and Minnie Hanson, Geneva; address, Cost of Milk Production, Prof. T. L. Hecker, St. Anthony Park, Minn.; discussion, Ira Russell, Plato; E. C. Chappel, Elgin; S. N. Wright, Elgin; Frank Shepherd, Dundee; music, duet, violin and piano, Misses Mamie and Annie Buzzell, Hampshire; vocal duet, Misses Pearl Wertheim and Adalen Watrous, Hampshire.

1:30 p. m.

Music, Kaneville Mandolin Club, Mrs. Bennett Humiston, Mrs. E. D. Spencer, Miss Ravlin and Miss Fink, assisted by A. and E. Gualano; The College of Agriculture, Prof. Eugene Davenport, Urbana; music, piano, Charley Backus, Hampshire; Domestic Science, Prof. Nellie S. Kedsie, Peoria; Calf Raising, Prof. T. L. Hecker; quartet, Mrs. Underwood, Miss Sharp, Mr. Bayles, Mr. Glos, St. Charles.

Evening session, February 7, 7:30 p. m.

Music, Kaneville Mandolin Club; address, The School and the Farm, Prof. Frank H. Hall, Jacksonville; music, concerto for violin, Mendelssohn, Miss Julia Garfield, Campton; recitation, Miss Mabel Garfield, Campton; quartet, Mrs. Underwood, Miss Sharp, Mr. Bayles, Mr. Glos, St. Charles.

February 8, 9:30 a. m.

Music, piano solo, Miss Minnie Hanson; Dairying, H. B. Gurlier, DeKalb; discussion, J. P. Mason, Elgin; S. Wilcox, Elgin, Alfred Bosworth, Elgin; recitation, Miss Alice McCornack, Geneva; Agricultural Education, Prof. W. A. Henry, Madison, Wis.; quissing the professor, everybody's opportunity.

1:30 p. m.

Election of officers; Elementary Lessons in Stock Feeding, Prof. W. A. Henry; discussion and questions; quartet, Mrs. Underwood, Mrs. Sharp, Mr. Bayles, Mr. Glos, St. Charles.

Evening session, February 8, 7:30 p. m.

Music, piano solo, Preamble, 6th, violin sonata, Bach, Mae L. Dutton; Tropical Africa, stereopticon views of the Boer country, Dr. Wm. A. Colledge, Aurora; suite for violin and piano, Cesar Cui, romance, serenade and finale, Mr. Henke, Aurora, and Miss Doty, Batavia; recitation, Griggaby Station, James Whitcomb Riley, Miss Hattie Waterhouse, Aurora; piano solo, Tarentelle, Nicode, Alice Doty; sonata, piano and violin, Arthur Foote, Finale, Allegro Appassionato, Miss Doty and Mr. Henke; quartet, Mrs. Underwood, Miss Sharp, Mr. Bayles and Mr. Glos, St. Charles.

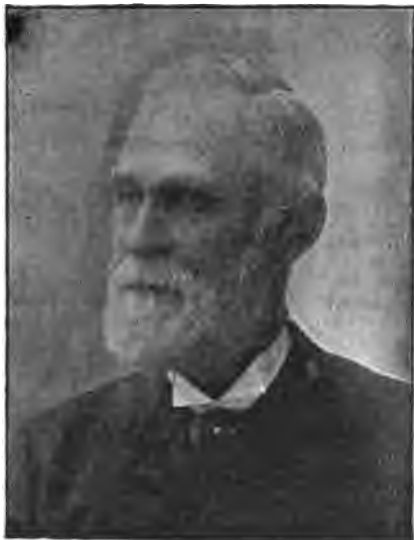
Officers elected for the ensuing year: President, Robert J. McCornack, Geneva; secretary, C. P. Dutton, Geneva; treasurer, Henry McGough, Geneva.

Average daily attendance, 1,000; cost, \$163.67; had an exhibit of much merit.

KANKAKEE COUNTY INSTITUTE.

The annual meeting was held at Manteno January 24 and 25, 1900.

Officers: President, O. W. Barnard, Manteno; secretary, Luther W. Smith, Manteno; treasurer, J. Foster Schmeltzer, Manteno.



O. W. Barnard, Manteno.

Program—Wednesday, January 24, 1900.
Morning session, 10 o'clock.

Music; prayer, Rev. W. T. Angus, Manteno; address of welcome, Dan G. Lee, Manteno; response; music; president's address and appointment of committees; treasurer's report.

Afternoon session, 1 o'clock.

Music; Some of the Most Difficult Problems in Farm Drainage and How to Meet Them, Leon Hay, Kankakee; discussion, led by J. F. Schmeltzer and E. M. Wright; Broad Tired Wagons, E. J. Viall, Manteno; Breeding and Management of Swine, G. A. Willnarth, president of State Association, Seneca.

Evening session, 7 o'clock.

Music, Manteno band; song, Mr. Morrill Davis, Chicago; piano duet, Blanche Smith, Nelda Marceau; Losses from Inferior Live Stock and How to Prevent Them, Professor Eugene Davenport, Dean College of Agriculture, Champaign; vocal solo, Mrs. J. M. Gulick; recitation, Pearl LeBeau; song, Mr. Davis; music, Manteno band.

Thursday, January 25, 1900. Morning session, 9:30 o'clock.

Piano, Mrs. Gulick, Manteno; Farm Telephones, Rev. Zeller, Manteno; song, Mr. Davis; Horticulture for the Farmer, D. S. McKinstry, landscape gardener for Illinois Eastern Hospital, Kankakee; election of officers and location of next Institute.

Afternoon session, 1 o'clock. Ladies' session.

Song, Mrs. Gulick; recitation, Jimmy Brown's Steam Chair, Lillian D. Dole; paper, The Pumpkin, Mrs. A. S. Cutler, Kankakee; Education in the Rural Schools, Mrs. Julia Stem, Sumner; song, Miss Nelda Marceau; Better Methods in our Homes, Mrs. Nora B. Dunlap, Savoy; general discussion.

Officers elected for the ensuing year: President, O. W. Barnard, Manteno; secretary, L. W. Smith, Manteno; treasurer, J. F. Schmeltzer, Manteno.

Average daily attendance, 300. Cost of Institute, \$86.50.

KENDALL COUNTY FARMERS' INSTITUTE.

The annual meeting was held at Town Hall, Yorkville, Wednesday and Thursday, January 10-11, 1900.

Officers—President, Edmond Seely, Yorkville; vice president, A. E. Myer, Millbrook; secretary and treasurer, Robert Harvey, Oswego; Alonzo Stansel, Yorkville; John Shaw, Plattsville.

Program—Wednesday, January 10, morning session, 10 a. m.

Music, Verona (march), Hazel; prayer, Rev. Jesse Dean, Bristol; address of welcome, Rev. S. W. Meek, Yorkville; response, Edmond Seely, Na-au-say; secretary's report, Eugene Matlock, Yorkville; music, Empire (overture), Faust; address, Our Agricultural Department, What It Is Doing for the Farmer, W. F. Weese, Ottawa.

Afternoon session, 1:30 o'clock.

Music, Vera (waltz), Baukin; reading, She Wanted to Learn Elocution, Mrs. Fred Wormley, Oswego; address, Crossing or Hybridizing, and Breeding Up of Seed Corn for Quality and Yield, W. H. Stoddard, Carlinville; report of experiments; discussion; address, The Road Problem, General Improvement and Care of Roads, H. C. Midgaugh, Clarendon Hills; discussion; address, Special vs. General Farming, B. F. Wyman, Sycamore; discussion; music, Hortensia (overture), Bendix.

Evening session, 7:30 o'clock.

Music, Dance of the Moonbeams, Morse; vocal solo, selected, Mrs. Robert Burks, Millbrook; reading, from Rudyard Kipling, Miss Gertrude Gale, Plano; instrumental solo, selected, Miss Mary Scoggin, Millington; paper, Husband and Wife as Partners on the Farm, Mrs. John Raleigh, Specie Grove; music, cornet solo, Long, Long Ago (air varie), Rowe, C. T. Ohse; address, Our Farmers' Girls, Mrs. L. G. Chapman, Freedom; music, Smoky Mokes (rag-time march), Holzmänn.

Thursday, January 11, morning session, 10 o'clock.

Music, Pure Gold, (overture), Schilling; prayer, Rev. J. A. Smith, Kendall; address, Corn Culture, G. W. Dean, Adams; discussion; address, Clover, Its Value on the Farm, Clayton C. Pervier, Sheffield; discussion; music, Bunch of Blackberries (march), Holzmänn.

Afternoon session, 1:30 o'clock.

Music, Blissful Dreams (waltz), Hermann; election of officers; reading, Darin's Green's Flying Machine, Miss Maude McCloud, Plattville; paper, Oats, History, Culture, Cost, C. H. Van Vleet, Philo; discussion; address, Education of the Farmer's Son, G. W. Adams; discussion; address, Dairy as an Adjunct to General Farming, D. W. Wilson, Elgin; discussion; music, Massanetta (caprice), Cohen.

Evening session, 7:30 o'clock.

Music, Sweet Longing, Mense; song, male quartet; reading, The Railroad Through the Farm, Miss Helen F. Hough, Aurora; music, lute solo, Coming Through the Rye, Cox, L. V. Koos; lecture, The Farmer and the Social Unrest, Prof. John Graham Brooks, Chicago University; music, Southern Blossoms (march), Fryor; song, male quartet.

Officers elected for the ensuing year: President, A. E. Myers, Millbrook; secretary and treasurer, Alonzo Stansel, Yorkville.

Average daily attendance, 350; cost, \$153.47.



Edmond Seely, Yorkville.

KNOX COUNTY FARMERS' INSTITUTE.

The annual meeting was held in the Court House, Galesburg, February 7, 8 and 9, 1900.

Officers—A. G. Charles, president; H. M. Sisson, treasurer, Galesburg; O. L. Campbell, secretary, Knoxville.

Program.—Wednesday, February 7, morning session, 10 a. m.

Call to order by the president; music; prayer; address of welcome, Hon. Fletcher Carney; response, President A. G. Charles; appointment of committees on resolutions, nominations, nomination of officers, selection of delegates to congressional meeting at Woodhull and State meeting at Mt. Vernon; paper, Sowing Grass Seed, Joseph Thirlwell, Galesburg; discussion.

Afternoon session, 1:30 p. m.

Music; paper, Sheep Raising, Wm. Behringer, Wataga; discussion; address, Work in the Agricultural College, Prof. P. G. Holden, University of Illinois; paper, Poultry on the Farm, Chas. Palmquist, Abingdon; discussion; song, Ed Williamson, Abingdon; address, Country Schools, Supt. Alfred Baylis, Springfield.

Thursday, February 8, morning session, 9:30 a. m.

Music; prayer; address, Domestic Economy, Mrs. H. W. Reed, Galesburg; discussion; Butter Making at Home, Mrs. H. Greig, Oneida; discussion; reading, Miss Clark, Abingdon; Education on the Farm, F. M. Higgins, Ottawa; music, Male Quartette, Abingdon.

Afternoon session, 1:30 p. m.

Music; paper, Pure Food, W. A. Robbins, Galesburg; discussion; address, Corn Culture, Prof. P. G. Holden, University of Illinois; discussion; paper, What I Have Learned at Farmers' Institutes, E. S. Fursman, El Paso.

Friday, February 9, morning session, 9:30 a. m.

Music; prayer; paper, Care and Feeding of Cattle, John Avery, Galesburg; paper, Cattle, L. H. Kerrick, Bloomington; discussion.

Afternoon session, 1:30 p. m.

Song; address, Agricultural Education, Hon. G. A. Willmarth, Seneca, president Illinois Farmers' Institute; discussion; address, Expansion of Our Trade in Meat Products, Hon. Clark E. Carr, Galesburg.

Officers elected for the ensuing year: President, Arthur Hinckley, Galesburg; secretary, O. L. Campbell, Knoxville; treasurer, H. M. Sisson, Galesburg.

Average daily attendance, 300; cost, \$83.00.

LAKE COUNTY FARMERS' INSTITUTE.

The annual meeting was held at Antioch February 9 and 10, 1900.

Officers: President, J. E. Holcomb, Rockefeller; secretary, J. J. Burk, Antioch; treasurer, H. B. Pierce, Antioch.

Program—Friday, February 9. Morning session, 10:30 o'clock.

Prayer, Rev. E. J. Aikin; music; address of welcome, J. C. James, Jr., Antioch; response, President J. E. Holcomb, Rockefeller; music; appointment of committeers; Agricultural Education, Prof. W. J. Henry, Madison, Wisconsin; all subjects open for discussion at the close of each address.

Afternoon session, 1:30 o'clock.

Music; Stock Feeding, Prof. W. J. Henry, Madison, Wis.; music; The Farmers' Home, Rev. E. J. Aikin, Antioch; music; Sixty Years Behind the Plow, T. J. VanMater, Fayette, Wis.

Evening session, 7:30 o'clock.

Music; recitation, Miss Effie Didama, Antioch; solo, S. M. Hungerford; recitation, Miss Harriette Chinn, Antioch; solo, S. M. Spafford, Antioch; Farm Industries, Sara Steenberg, Chicago; music.

Saturday, February 10. Morning session, 10 o'clock.

Music; prayer, Rev. E. J. Aikin, Antioch; The Dairy Cow, DeWitt Stanton, Antioch, music; Spafford quartette; Sheep Husbandry, R. G. Murrie, Russell; music; The Farmers' Needs in Legislation, C. T. Heydecker, Waukegan; Domestic Science, Sara Steenberg, Chicago; music; Things Are Not as They Used to Be, T. J. VanMater, Fayette, Wis.

Afternoon session, 1:30 o'clock.

Reports of committees; election of officers and delegates; music; Education of the Farmer's Boy, Rev. W. S. Goode, Antioch; music; Horse Breeding, E. P. DeWolf, Waukegan; music.

Program subject to change to suit circumstances.

Officers elected for the ensuing year: President, Ralph Chittenden, Gurnee; secretary, J. J. Burk, Antioch; treasurer, H. B. Pierce, Antioch.

Average daily attendance, 500. Cost, \$100.00.



J. E. Holcomb, Rockefeller.

LA SALLE COUNTY FARMERS' INSTITUTE.

The annual meeting was held at Earlville, Illinois, February 13 and 14, 1900; G. A. Willmarth, Seneca, director 11th Congressional District.

Officers: President, G. A. Willmarth, Seneca; vice-president, S. D. Center, Fall River; secretary, Mrs. L. G. Chapman, Freedom; treasurer, A. F. Shock, Ottawa.

Program—Tuesday, February 13, afternoon session, 1:00 p. m.

Music, America; prayer, Rev. Enos Holt, Earlville; address of welcome, Mayor Goble, Earlville; response, Pres. Willmarth, Seneca; address, Clover, Its Value on the Farm, C. C. Perrier, Sheffield; vocal duet, Mesdames H. F. Olmstead and Henry Pool, Freedom; address, Domestic Science, Mrs. Joseph Carter, Champaign, president State Association of Domestic Science; discussion.

Evening session, 7:30 p. m.

Music; prayer; music; reading, The Doom of Claudius and Cynthia, Miss Mabel Lola Irmes, Mendota; address, Agricultural Education, Prof. E. Davenport, dean of Illinois Agricultural College, Urbana; reading, Miss Elizabeth Rigden, Ottawa; address, Care of the Poor, Miss Julia C. Lathrop, member of State Board of Charities; music.

Wednesday, February 14, morning session, 9:30 a. m.

Music: prayer; address, The Profit in the Corn Crop, W. B. Mills, Clear Creek, member of Corn Growers' Association of Illinois; discussion; query box, in charge of D. M. Terry, Freedom; address, F. M. Higgins, Ottawa, editor Ottawa Fair Dealer.

Afternoon session, 1:00 p. m.

Music: address, Good Roads, John M. Stahl, secretary Farmers' National Congress; piano duet, Misses Mattie Walters and Georgia M. Chapman, Freedom; address, Type and Quality of Farm Stock, A. P. Grout, Winchester, president Illinois Live Stock Breeders' Association; discussion, address, Our Agricultural Department, What It is Doing for the Farmer, D. W. F. Weese, Ottawa, Assistant State Veterinarian; adjournment.

Officers elected for the ensuing year: President, G. A. Willmarth, Seneca; secretary and treasurer, Mrs. L. G. Chapman, Freedom.

Average daily attendance, 809; cost, \$95.

LAWRENCE COUNTY FARMERS' INSTITUTE.

The annual meeting was held at Lawrenceville, December 5, 6 and 7, 1899.

Officers—President, Robert Kingsbury, Pinkstaff; secretary, W. E. Neal, Bridgeport; treasurer, J. K. Dickirson, Lawrenceville.

Program—Tuesday, December 5, morning session, 10.

Music: invocation, Rev. J. Leeper; appointment of committees; address of welcome, Mayor S. J. Gee; response, J. A. Benson, Russellville; Corn Culture, H. H. James, Allison; discussion, led by E. Wiswall.

Afternoon session, 1:15.

Music: Poultry on the Farm, Mrs. S. Rose Carr, Lis; discussion, C. J. Watts, E. F. Dalrymple; Broom Corn, Cultivation and Preparation for Market, D. H. Shank; Mistakes and Leaks on the Farm, Robt. M. Kirkwood, Lawrenceville; question box opened.

Evening session, 7.

Music: Undeveloped Resources in Lawrence County, A. L. Maxwell, Lawrenceville; Cooperation Among Farmers, O. H. Barnes, Pasturefield.

Wednesday, December 6, morning session, 9:30.

Music: invocation, Elder J. E. Moyer; Potatoes as a Field Crop, C. C. Applegate, Island; discussion, H. K. Seed; The Future of Farming and the Inducements Offered Bright Young Men to Stay on the Farm, Hon. J. K. Dickirson.

Afternoon session, 1:15.

Music: Hog Breeding and Feeding, L. A. Spies, St. Jacobs; discussion; Better Methods in Our Homes, Mrs. H. M. Dunlap, Savoy; question box opened.

Evening session, 7.

Music: Farm Orchards, W. D. Barr, Lawrenceville; discussion, C. J. Borden, Lawrenceville. Questions will be read and discussed during this session. Nothing of an objectionable character will be noticed.

Thursday—Woman's Day—Morning session, 9:30.

Music: invocation, Rev. D. S. Moore; Scenes in Our Walks, Mrs. J. R. King, Bridgeport; address, Mrs. Geo. W. Lackey; What Can a Woman Do on a Farm, Mrs. W. H. White, Russellville.

Afternoon session, 1:15.

Music: paper on Domestic Science, Mrs. S. Rose Carr, Lis. Followed by organization of the Domestic Science Association of Lawrence County; election of officers for ensuing year.

Officers elected for the ensuing year: President, Robert Kingsbury, Pinkstaff; secretary, W. E. Neal, Bridgeport; treasurer, Mrs. J. R. King, Bridgeport.

Average daily attendance, 300; cost, \$74.50.

LEE COUNTY FARMERS' INSTITUTE.

The annual meeting was held at the Opera House, Amboy, Ill., January 9 and 10, 1900.

Officers: President, J. L. Hartwell, Dixon; vice president, A. A. Beede, Palmyra; secretary, Roy E. Swigart, Dixon; treasurer, Eugene Raymond, South Dixon.

Program—Tuesday, January 9. Morning session, 10:45 o'clock.

Prayer, Rev. E. S. Chandler, Amboy; address of welcome, Mayor Johnson, Amboy; response, W. I. Guffin, Paw Paw; address, President J. L. Hartwell; business and reports of secretary and treasurer.

Afternoon session, 1:15 o'clock.

Appointment of committees; Rural Libraries, Miss Frances LeBaron, Elgin; discussion; Breeding and Management of Swine, G. A. Willmarth, president Illinois Farmers' Institute; discussion; Dairying as an Adjunct to General Farming, Editor D. W. Wilson, Elgin Dairy Report; discussion.

Evening session, 8 o'clock.

Music; Rural Schools, Prof. John W. Cook, DeKalb, president State Normal of Northern Illinois; discussion; music; Agricultural Education, (illustrated by stereopticon) Prof. P. G. Holden, Champaign; reading of prize essays; music.

Wednesday, January 10. Morning session, 10 o'clock.

Prayer, Rev. A. A. Mohnsey, Amboy; Potato Culture, Lee Sterry, Dixon; discussion; Corn—Fodder, Daniel S. Mackay, Mt. Carroll, president Carroll County Farmers' Institute; discussion.

Afternoon session, 1:30 o'clock.

Prevention of Smut in Oats and Wheat, Prof. P. G. Holden, Champaign, State University of Illinois; The Breeding and Feeding of Cattle for Market, C. H. Hughes, Dixon; discussion; election of officers.

Evening session 8 o'clock.

Music; Horticulture on the Farm, Mrs. C. Hey, Dixon; music; Food and Nutrition, Mrs. I. D. Page, Princeton; music; What Can the Boy Do on the Farm, G. W. Rice, Mendota; music.

Officers elected for the ensuing year: President, J. L. Hartwell, Dixon; secretary, Charles Hey, Dixon; treasurer, W. Badger, Amboy.

Average daily attendance, 800. Cost, \$108.49.

Next Institute at Amboy January 8-9, 1901.

Prizes were given for essays by school boys and girls.

LIVINGSTON COUNTY FARMERS' INSTITUTE.

The annual meeting was held in Folks' Opera House, Pontiac, Illinois, Thursday and Friday, October 19 and 20, 1899.

Officers of the Institute—President, S. M. Barnes, Fairbury; Secretary, C. R. Tombaugh; Treasurer, N. J. Myer.



S. M. Barnes, Fairbury.

Program—Thursday forenoon, 10 o'clock.
Music; prayer, Rev. J. H. Hatfield; music;
President's address, Marion Gallup; The
Work and Mission of Farmers' Institutes,
G. A. Willmarth, Seneca, President Illinois
Farmers' Institute.

Thursday afternoon, 1:30 o'clock.

Music (music for this session furnished by
Illinois State Reformatory); The Education
of the Farmer, C. C. Pervier, Sheffield,
President Bureau County Farmers' Insti-
tute; music; Improvements of Home
Grounds, Prof. J. C. Blair, Urbana, Univer-
sity of Illinois; music.

Thursday evening, 7:30 o'clock.

Vocal solo, W. L. Miller; The Farmer as a
Citizen, Joseph Carter, Superintendent of
Schools, Champaign; violin duet, Misses
Litta Rathbun and Marie Patton; reading,
Miss Anna Dixon; vocal solo, S. E. Sims.

Friday forenoon, 9:30 o'clock.

Music; Clover, Joseph Carter; violin solo,
Miss Grace McMurray; Farm Horticulture,
Prof. J. C. Blair; election of officers.

Friday afternoon, 1:30 o'clock.

Song, Erickson Trio; Teaching Domestic
Economy, Mrs. Nellie S. Kedsie, Bradley
Polytechnic Institute, Peoria; reading, Miss
Helen Scouller; Poultry, Miller Purvis.

Officers elected for the ensuing year:
President, J. W. McDowell, Fairbury; Sec-
retary, H. B. Taylor, Fairbury; Treasurer,
J. R. Strawn, Forrest.

Average daily attendance, 226. Cost, \$211.36.
Had an extensive exhibit of grains, fruits
and vegetables, for which liberal premiums
were paid.

LOGAN COUNTY FARMERS' INSTITUTE.

The annual meeting was held at the City Hall, Lincoln, Ill., December 6, 7 and 8, 1899.

Officers—President, Hon. J. T. Foster, Elkhart; Vice-President, William H. Evans, Lincoln; Secretary, J. W. Jones, Lincoln; Treasurer, John A. Critchfield, Broadwell.

Program—Wednesday, December 6. Morning session, 10 o'clock.

Music, piano; prayer, Rev. R. M. Tinnon, pastor C. F. church, Lincoln; address of welcome, E. C. Moos, county judge; response, A. M. Caldwell, New Holland; President's address, Hon. J. T. Foster, Elkhart; report of secretary, J. W. Jones, Lincoln; report of treasurer, J. A. Critchfield, Broadwell.

Afternoon, 1 o'clock. Woman's Session. Mrs. E. G. Oglesby, President Logan County Domestic Science Association, presiding.

Music, piano solo, Miss Anna Evans Galford, Elkhart; address, Iron Sharpening Iron, Mrs. Fannie M. Spaita, Mason county; music, vocal solo, Mrs. Mabel Lampe, New Holland; music, Ladies' Mandolin Club; address, The Art of Butter Making, Mrs. Springer, Springfield; discussion; music, Ladies' Mandolin Club.

Evening session, 7 o'clock.

Music, Prof. H. O. Merry and Orchestra; reading, The First Settler's Story, Mrs. Samuel Keys, Beason; music, Prof. H. O. Merry; address, A. E. Turner, President Lincoln University.

Thursday, December 7. Morning session, 10 o'clock.

Music, piano solo, Miss Hettie White, New Holland; address, Farmers' Telephone Lines and How to Obtain Them, B. F. Wasson, Supt. Farm and City Telephone Co., Farmer City; discussion; music, piano solo; address, How We Build Good Roads, J. Ed. Miller, Monmouth.

Afternoon session, 1 o'clock.

Music, piano solo; address, Cattle and Stock Raising for Illinois, Hon. A. P. Grout, President Illinois Live Stock Breeders' Association, Winchester; discussion, led by Joseph Hoblit, Wm. H. Evans, A. B. Hostetter, Springfield; address, The Horse, Dr. T. A. Donald, Lincoln; discussion, Elias Buckles, Lake Ford; E. L. Mountjoy, Eminence; Mr. Sterieker, Springfield.

Friday, December 8. Morning session, 10 o'clock.

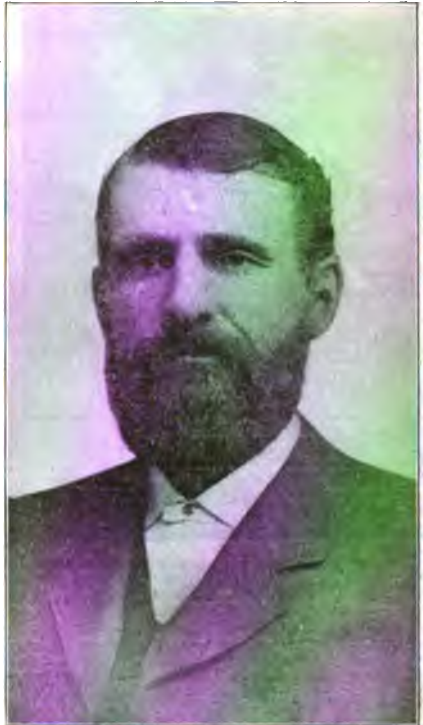
Music, piano solo; My Experience With Clover, discussion led by John McHarry, Havana; A. B. Nicholson, Lincoln; George Lachenmeyer, Mt. Pulaski, and H. P. Purviance; music, quartet, Hanger Bros.; address, Corn Culture and Its Commercial Value, E. S. Fursman, El Paso, Ill., President of the Illinois Corn Growers' Association.

Afternoon session, 1 o'clock.

Piano solo, Miss Mae Foster, Elkhart; election of officers for ensuing year; address, Public Warehouses, Warehousemen and Their Effect Upon the Price of Grain, S. S. Tanner, Minier; music, Miss Reed, Lincoln; address, Rural Mail Delivery, J. B. Curry, Eminence; discussion.

Officers elected for the ensuing year: President, J. T. Foster, Elkhart; Secretary, J. W. Jones, Lincoln; Treasurer, J. A. Critchfield, Lincoln.

Average daily attendance, 800. Cost, \$137.86. Had an exhibit of farm, dairy and culinary products, with liberal premiums.



J. T. Foster, Elkhart.

McDONOUGH COUNTY FARMERS' INSTITUTE.

Officers: President, A. R. Stickle, Good Hope; secretary, Fred Miner, Adair; treasurer, W. W. Webb, Good Hope.

The annual meeting was held in the town hall, Blandinsville, Friday and Saturday, October 6 and 7, 1899.



A. R. Stickle, Good Hope.

Program—Friday. Morning session, 10 o'clock.

Prayer, pastor of the M. E. church; music; Farm Insurances, John Ullrich, Blandinsville; Farm Telephones, Dr. Rice, Disco, Illinois.

Afternoon session, 1 o'clock.

Music; election of officers; Your Method of Raising Sheep, W. E. Spicer, Bushnell; recitation, Clarence Merriam, Good Hope; Improvement of Domestic Animals, Dr. Rice, Disco.

Evening session, 7:30 o'clock.

Music; recitation, Miss Gertrude Hankins, Scioto; Orchard Management, Prof. Blair, University of Illinois, Urbana.

Saturday. Morning session, 10 o'clock.

Prayer, pastor of the Baptist church; music; How I Breed and Raise Hogs, Frank M. Hersog, Blandinsville; Comparative Value of Food for Domestic Animals, John Huston, Blandinsville.

Afternoon session—Women's session, 10 o'clock.

Better Methods in Our Homes, Mrs. H. M. Dunlap, Savoy, Ill.

There will be a discussion following each subject. Anyone present is at liberty to discuss. At the end of each session the question box will be opened. Headquarters will be at Hotel Ballou where reduced rates have been secured.

The second meeting was held at Bushnell, Ill., in Western Normal College Chapel, February 14 and 15, 1900.

Program—Wednesday, February 14. Morning session, 10 o'clock.

Music; prayer, Rev. W. W. Morgan, pastor Baptist church; address of welcome, Hon. C. C. Chain, editor McDonough Democrat, Bushnell; response, F. G. Miner, Adair, secretary McDonough County Farmers' Institute; music; Farm Telephones, Mr. Leander Serven, Prairie City; Better Public Roads, Hon. G. W. Dean, Adams, director Farmers' Institute, 15th Congressional District.

Afternoon session, 1:30 o'clock.

Music; Public Warehouses and Warehouse Men, and Their Effects on the Prices of Grain, Mr. S. S. Tanner, Minier; How to Improve Our Country Schools, President W. W. Earnest, Western Normal College, Bushnell.

Evening session, 7:30 o'clock.

Music; Education of the Farmer, Hon. G. W. Dean, Adams.

Thursday, February 15. Morning session, 10 o'clock.

Music; prayer, pastor M. E. church, Bushnell; Rotation of Crops, Mr. W. W. Webb, Good Hope; Butter and Milk, Hon. A. A. Adair, Macomb.

Afternoon session, 1:30 o'clock.

In charge of the McDonough County Domestic Science Association, Mrs. O. M. M. Elvon, president, Scottsburg; recitation, Mrs. Blanche Lindsay, Good Hope; The Object and Aim of the Domestic Science Association; music; Home Influences on the Young, Della Couchman, Bentley; election of officers for the Domestic Science Association; there will be a discussion following each topic.

Officers elected for the ensuing year: President, A. R. Stickle, Good Hope; secretary, Fred G. Miner, Adair; treasurer, William Webb, Good Hope.

verage daily attendance, 325; cost of first meeting, \$41.05; second, \$20.28.

exhibits for which premiums were given.

McHENRY COUNTY FARMERS' INSTITUTE.

The annual meeting was held at Harvard, January 31st and February 1st and 2d, 1900.

Officers—President, George A. Hunt, Greenwood; Secretary, M. Zimpleman, Marengo; Treasurer, H. T. Thompson, Huntley.

Program—Wednesday, January 31, 1900. Morning session, 10:30 o'clock.

Prayer; music; address of welcome, Mayor J. A. Sweeney, Harvard; response, Fred Hatch, Spring Grove; Soil Exhaustion and How to Prevent it, Miller Purvis, Lake Forest; music; Tile Drainage for Highways, H. H. Thompson, Huntley.

All subjects open for discussion at the close of each address.

Afternoon session, 1:30 o'clock.

Music; How I Fenced My Farm, H. D. Hughes, Antioch; The Value of Improved Live Stock, Fred Hatch, Spring Grove; music; Road Improvement, W. L. Eaton, Rockford.

Evening session, 7:30 o'clock. Ladies' session, conducted by Mrs. R. W. Overton, Richmond.

Music, Ladies' Quartette, Harvard; prayer, Mrs. M. E. Krotzer, Harvard; Food and Nutrition, Mrs. I. D. Page, Princeton; duet, small boys; recitation, Mrs. Della Earl, Hebron; Scientific Training for Housekeepers, Mrs. I. D. Page; solo, Mrs. H. D. Crumb, Harvard; recitation, Miss Ruth Overton, Richmond; music, Ladies' Quartette.

Thursday, February 1, 1900. Morning session, 10 o'clock.

Music; prayer; What the College of Agriculture and the Farmer can do for Each Other, Prof. E. Davenport, Dean of the State Agricultural College, Urbana; The Silo and its Use, H. D. Hughes, Antioch; music; The Relation of Feed to Butter Fat as Shown by the Oil Test, M. Long, Greenwood.

Thursday, February 1, 1900. Afternoon session, 1:30 o'clock.

Music; Balanced Rations for Dairy Cows, Prof. E. Davenport, Urbana; The Benefits of Mutual Farm Insurance, David Hunter, Rockford; music; music; A Few of My Mistakes, Miller Purvis.

Evening session, 7:30 o'clock.

Music, Lyric Quartette, Harvard; What is Taught in the College of Agriculture and How it is Done, Prof. E. Davenport, Urbana; solo, Miss Beatrice Gaye, Urbana; Farming Then and Now, or in the 40s Compared with the Present, H. C. Mead, West McHenry; duet, Miss Gaye and Mr. Anderson; The Mission of Our County Fair, A. S. Wright, Secretary McHenry County Fair; solo, S. E. Anderson, Harvard; Sixty Years Behind the Plow, T. J. Van Matre, Fayette, Wis.; music, Lyric Quartette.

Friday, February 2, 1900. Morning session, 10 o'clock.

Music; prayer; Keeping a Flock of Breeding Ewes at a Profit, H. D. Hughes, Antioch; Farm Fences, M. Zimpleman, Marengo; music; Economical Improvements of Live Stock, Prof. E. Davenport, Urbana; Poultry on the Farm, Miller Purvis, Lake Forest.

Afternoon session, 1:30 o'clock.

Music; election of officers and delegates; reports of committees; music; The Farm Garden, Miller Purvis, Lake Forest; Dairying on the Farm, H. D. Hughes, Antioch; Things Are Not as They Used to be, T. J. Van Matre, Fayette, Wis.

Officers elected for the ensuing year: President, George A. Hunt, Greenwood; Secretary, M. Zimpleman, Marengo; Treasurer, H. T. Thompson, Huntley.

Average daily attendance, 400. Cost, \$111.83.

MCLEAN COUNTY FARMERS' INSTITUTE.

The 13th Congressional District Farmers' Institute was held with the McLean County Farmers' Institute in the Coliseum Building, Bloomington, Ill., January 16, 17 and 18, 1900, S. Noble King, Director 13th District, Bloomington.

Officers McLean County Farmers' Institute—President, D. R. Stubblefield, Covell; vice president, Oscar Bennet, Leroy; secretary, John M. Anthony, Bloomington; treasurer, W. J. Baldrige, Bloomington.



D. R. Stubblefield, Covell.

dress, Cattle Feeding and Grazing for Profit, John Imboden, Decatur; discussion, Hugh Hyneman, Lexington; L. E. Baker, Downs; O. P. Skaggs, Danvers; address, Hogs and How to Raise Them, D. P. McCracken, Paxton; discussion, C. C. Brown, Heyworth; Frank Benjamin, Bloomington; Wm. Vandevender, Lexington.

Afternoon session, 1:30 o'clock—Domestic Science Session—Mrs. Joseph Carter, Champaign, presiding, president Illinois Association Domestic Science.

Instrumental solo, Miss Effie Allison, assistant teacher to Mr. Skinner, Wesleyan College of Music; paper, How Shall We Live? Mrs. Jennie C. Barlow; A Leaf From My Cooking School Note Book, Miss Eva Atkinson; recitation, The New Version, A Little Cook; paper, The Domestic Science Association, Its Scope and Value to Farmers' Wives, Mrs. S. Noble King; vocal solo, Miss Isabel Stenick, assistant teacher to Mrs. Skinner, Wesleyan College of Music; paper, nutrition, Mrs. I. D. Page, Princeton, Ill.

Evening session, 7:30 o'clock.

F. M. Borders, Clinton, presiding, president DeWitt County Farmers' Institute.

Music, Wesleyan Glee Club; recitation; address, How to Keep the Old Man on the Farm, Mr. Joseph Carter, Champaign.

Program—Tuesday, January 16, morning session, 10:00 o'clock.

Music, vocal solo, Lyman Sturgeon; prayer, Dr. Richard Edwards, Bloomington; president's address, D. R. Stubblefield, Covell; secretary's report, John M. Anthony, Bloomington; treasurer's report, W. J. Baldrige, Bloomington; address, The Work and Mission of Farmers' Institutes, Hon. G. A. Willmarth, Seneca, president Illinois State Farmers' Institute.

Afternoon session, 1:30 o'clock.

Isaac S. Raymond, Sidney, presiding, president Champaign County Farmers' Institute.

Music, piano solo, Myrtle Hollinshead; address, Corn, How to Raise, Harvest, Store and Market, F. A. Warner, Sibley, manager Sibley Estate Farms; discussion, Geo. Bohrer, Kerrick; T. C. Kerriek, Bloomington; Lewis Biggs, Leroy; L. D. Young, Bloomington; address, Oats, Its Culture, Place and Value in Central Illinois, Noah Franklin, Lexington; discussion, Wm. Perry, Stanford; Deane N. Funk, McLean; Andrew S. Jones, Leroy; address, Forage Crops, What to Raise, How to Raise and How to Harvest, Prof. Eugene Davenport, dean and director College of Agriculture, University of Illinois, Champaign; open discussion.

Evening session, 7:30 o'clock.

C. J. Bear, Monticello, presiding, president Platt County Farmers' Institute.

Music, piano solo, Mr. H. Schilling; address, Agricultural Education, Hon. G. A. Willmarth; address, Market Gardening and Gardening for the Farmer, L. H. Leaton, Normal.

Wednesday, January 17, morning session, 10:00 o'clock.

I. F. Bouck, Arcola, presiding, president Douglas County Farmers' Institute.

Music, baritone solo, Arthur Loar; address, Beef Cattle Situation in Central Illinois, Frank H. Funk, Bloomington; ad-

Thursday January 18, morning session, 10:00 o'clock.

F. W. Beardsley, Sibley, presiding, president Ford County Farmers' Institute.

Music, clarinet solo, Clark E. Stewart; address, The Farmer as a Horse Breeder, Geo. Williams, Athens, Ill.; secretary Illinois Horse Breeders' Association; discussion, Capt. S. N. King, Bloomington; Wm. Hurt, Arrowsmith; C. K. Ream, Gridley; Thomas Kent, Lexington; address, Dairying as an Adjunct to General Farming, W. J. Barnes, McLean; discussion, F. L. Gaston, Normal; Joseph Wringle, Danvers; W. D. Snow, Bloomington.

Afternoon session, 1:30 o'clock.

Oscar Bennett, Leroy, presiding, vice president McLean County Farmers' Institute.

Music, piano solo, Frank Harvey; address, The Science of Breeding, Feeding and Care of Sheep, J. M. Burt, Armington; discussion, Jacob Ziegler, Clinton; Robert Reed, Bloomington; J. C. Wakefield, Heyworth; introduction of resolutions; election of officers; sale of exhibits.

Officers elected for the ensuing year: President, E. D. Funk, Shirley; secretary, J. M. Anthony, Bloomington; treasurer, J. F. Moore, Bloomington.

Average daily attendance, 800; cost of Institute, \$146 50. Had an extensive exhibit of farm, dairy and culinary products, for which liberal premiums were paid.

MACON COUNTY FARMERS' INSTITUTE.

The annual meeting was held at Decatur.

Officers—President, William H. Bean, Blue Mound; Secretary, C. A. Thrift, Forsythe; Treasurer, C. H. Scott, Mt. Zion.

Program not reported.

Officers elected for the ensuing year: President, William H. Bean, Blue Mound; Secretary, C. A. Thrift, Forsythe; Treasurer, C. H. Scott, Mt. Zion.

Average daily attendance, 300. Cost, \$50.

MACOUPIN COUNTY FARMERS' INSTITUTE.

The annual meeting was held at Carlinville, December 20 and 21, 1899.

Officers—President, W. B. Otwell, Carlinville; Secretary, Robt. Whiteley, Carlinville; Treasurer, E. G. Duckles, Carlinville.

Program—1 o'clock p. m.

Meeting called to order by President W. B. Otwell; prayer; paper on poultry, What I Would Do Were I to Start Over Again, S. A. Rigg, Palmyra, Ill.; address, Benefits to Be Derived from Farmers' Institutes, G. A. Willmarth, Seneca, Ill.; President Illinois State Institutes; Benefits to Be Derived by the Farmer at Our County Fairs, S. B. Dugger, Womac, Ill.

Evening session, 7:30 o'clock.

Music, string duet, mandolin and guitar, James Brown and Alfred Mayfield; essay, The District School, Mary Murphy, Carlinville; vocal solo, selection, Grace Kaurau, Carlinville; recitation, selection, Prof. Wesley Challacombe; music, selection, male quartet, Prof. Chalacombe, Jas. Brown, Harry Cundall, Herbert Crowder; address, Our Young Men, Rev. J. A. Lucas, Carlinville; music.

Thursday, 8 a. m.

Address, Corn, W. H. Rowe, Jacksonville; address, Cattle for Macoupin County, Macoupin County for Cattle, Charles E. Denby, Carlinville; address, Tiling, D. T. Michaels, Carlinville; address, Exhibits at County Institutes, Ed. Grimes, Raymond, Ill.

Thursday afternoon, 1:30 o'clock.

Type and Quality in Live Stock, A. P. Grout, Winchester, Ill.; address, The Relation of the Farmer and His Cow to Each Other, C. L. Stoddard, Carlinville; papers, Dairying and Butter Making, J. W. Boatman, A. B. Steidley, Carlinville, Ill.

Thursday evening, 7:30 o'clock.

Music, piano duo, selection, Misses Lissie and Marie Steinhmeyer; music, contralto solo, selection, Margaret Westermeyer; essay, Domestic Economy, Mrs. Lou Watson, Barnett, Ill.; vocal solo, Mrs. T. K. Gore; vocal solo, Miss Mildred Rowe; recitation, Mrs. J. M. Barcus; vocal solo, Miss Mary Seigel; address, The Making of a Man, T. H. Marsh, Alton.

Officers elected for the ensuing year: President, W. B. Otwell, Carlinville; Secretary, W. H. Stoddard, Carlinville; Treasurer, R. E. Chiles, Comer.

Average daily attendance, 500. Cost, \$95.25.

MADISON COUNTY FARMERS' INSTITUTE.

The annual meeting was held at St. Jacob, November 16, 17, 18, 1899.

Officers: President, L. A. Spies, St. Jacob; secretary and treasurer, L. S. Dorsey, Moro.

Program—Thursday evening, November 16, 1899, 7 o'clock.

Music; Michael orchestra, St. Jacob; prayer, Rev. M. Rentschler, St. Jacob; address of welcome, August Miller, St. Jacob; response, Frank Troeckler, Mitchell; music; duet, Mrs. L. Micksch and Miss Nellie Stevens; address, What the Illinois Farmers' Institute is Doing for the Farmer, E. W. Burroughs, Edwardsville, director Illinois Farmers' Institute, 18th Congressional District; music, Michael orchestra; address, What the Illinois Board of Agriculture is Doing for the Farmer, Hon. W. A. Young, Butler, vice president Board of Agriculture, 18th district; recitation, Miss Anna Miller; address, What the Last Legislature Did for the Farmer, Hon. Wm. McKittrick, Staunton; address, The Education of Farm Life, E. S. Fursman, El Paso; music; Michael orchestra; address, Household Economy, Mrs. J. R. Challacombe Hillsboro; recitation, Nora O'Neil; announcements; music, St. Jacob Mandolin and Guitar club.

Friday, Nov. 17, 1899, 9:30 a. m.

Music, St. Jacob Mandolin and Guitar club; reports of officers; reports of delegates to State Institute; appointment of committees; address, Corn Culture and its Commercial Products, E. S. Fursman, El Paso, president of Illinois Corn Growers' Association; discussion; address, Practical and Profitable Fruit Growing, W. A. Young, Butler; discussion, led by Chas. Fagenroth, of Edwardsville, and E. Holland, of Melville; music, piano solo, Mrs. L. Micksch.

L. A. Spies, President, St. Jacob.

Friday, November 17, 1899, 1:30 p. m.

Music, St. Jacob Mandolin and Guitar club; address, Who Pays the Taxes, ex-Congressman W. F. L. Hadley, Edwardsville; song, duet, Misses Lottie Warman and Lissie Lederman; discussion; address, Cow Peas and Soy (Soja) Beans, Their Value as Farm Crops, Robert C. Morris, Olney; discussion, led by Fred Penning, East Alton; music, duet, Mrs. Micksch and Miss Nellie Stevens.

Friday, November 17, 1899, 7:30 p. m.

This session will be in charge of the Madison County Domestic Science Association. Mrs. L. A. Spies, president; Mrs. E. W. Burroughs, vice president; Miss Anna Robinson, secretary; Mrs. L. Dorsey and Mrs. J. S. Culp, executive committee.

Music, St. Jacob Mandolin and Guitar club; recitation, Miss Ethel Faires, St. Jacob; address, What the Illinois Association of Domestic Science is Doing, Miss Anna Robinson, Liberty Prairie, secretary Madison County Domestic Science Association; music, piano solo, Mrs. Jas. G. Miller, St. Jacob; address, The Girl on the Farm, Mrs. Wm. H. Cartwright, Upper Alton; music, Grantfork quartet; address, P. G. Holden, Urbana; music, Grantfork quartet; recitation, The Flood and the Ark, John Aebischer, St. Jacob; music, Grantfork quartet.

Saturday, November 18, 1899, 9:30 a. m.

Music, St. Jacob Mandolin and Guitar club; address, Why are Dairy Profits Small? Lee S. Dorsey, Moro; discussion, led by Joseph Blattner and Fred Stocker, of Highland; address, Caring for Milk, J. A. Latzer, Jr., Highland, Ill., of Agricultural College, Champaign; discussion.

Madison County Domestic Science Association, M. E. church, 9:30 a. m., Saturday, Nov. 18, 1899.

Music; The Model Kitchen, Mrs. L. A. Spies, St. Jacob; Practical Hints to Practical People, Miss A. Robinson, Liberty Prairie; music; How Can the Domestic Science Association be Made Helpful to Farmers' Wives, Mrs. E. W. Burroughs, Edwardsville; The Home Education of Children, Mrs. W. H. Cartwright, Upper Alton; music.

Saturday, November 18, 1899, 1:30 p. m.

Music, Mandolin and Guitar club; reports of committees; election of officers; address, Wastes on the Farm, Prof. P. G. Holden, Urbana, from the University of Illinois, Agricultural Experiment Station; discussion; music, St. Jacobs Ladies' quartet; baby show not a part of the Institute program.

Officers elected for the ensuing year: President, L. A. Spies, St. Jacobs; secretary, Lee S. Dorsey, Moro; treasurer, Lee S. Dorsey, Moro.

Average daily attendance, 750; cost, \$98.50.



MARION COUNTY FARMERS' INSTITUTE.

The annual meeting was held at Salem, December 8 and 9, 1899.

Officers—President, J. M. Green, Salem; Secretary, Lincoln Kell, Salem.

Program—First day.

Music; invocation; address of welcome, Mayor T. S. Marshall, Salem; response, J. M. Green, President County Farmers' Institute; Timothy and Red Top for Profit, H. N. Woodward, Odin; Melons vs. Strawberries, Gilbert Boggs, Walnut Hill; How to Grow Wheat, Forrest Shanafelt, Salem; Soja Beans and Cow Peas, A. A. Hinckley, DuBois.

Noon intermission.

Raising and Feeding Sheep for Profit, A. J. Harvey, Salem; Horticulture, A. G. Beal, Mt. Vernon; Picking, Packing and Marketing Vegetables and Fruit, Edgar G. Davis and Joseph Spies, Chicago; Domestic Science, Sarah M. Beal, Mt. Vernon.

Second day.

Music; Swine Raising and Feeding, J. D. Telford, Salem; Planting and Raising a Peach Orchard, Wm. Perrine, Centralia; Spraying and Cultivation for Fruit, H. A. Aldrich, Neoga; Our Country Schools and Their Relation to the Farmer, J. E. Whitchurch, County Superintendent of Schools.

Noon intermission.

The Farm from the Farmer Boy's Standpoint, Judge J. B. Kagy, Salem; Type and Quality in Farm Stock, A. P. Grout, Winchester; Broom Corn as a Crop for Profit in Marion County, J. R. Monroe, Kell; reports of officers; report of committee; appointment of delegates to State meeting; election of officers; selection of place of next meeting.

Officers elected for the ensuing year: President, A. V. Schermerhorn, Kinmundy; Secretary, Lincoln Kell, Salem; Treasurer, A. J. Harvey, Salem.

Average daily attendance, 100. Cost, \$36.

MARSHALL COUNTY FARMERS' INSTITUTE.

The annual meeting was held in new opera house, Henry, Ill., Friday and Saturday December 1 and 2, 1899.

Officers—President, C. J. Held, Lacon; Vice-President, F. F. Thierry; Secretary and Treasurer, Elmer Quinn.

Program—Friday, December 1.

Call to order at 10 o'clock a. m.; prayer, Rev. A. K. Tullis; address of welcome, Mayor B. F. Forrest; response, Mrs. C. J. Held, Lacon; paper, Fellowship Among Farmers, Clarence Grosscup, Wenona; discussion, M. S. Miller, Hopewell; paper, What is the Most Profitable Breed of Hogs for the Farmers to Raise, H. E. Broadbush, Varna; discussion, Thomas Monier, Henry.

Recess till 1:30 p. m.

Solo, Miss Daisy Shaw, Lacon; paper, How to Realize the Most Profit from the Farm Dairy, R. W. Iliff, Lacon; discussion, Mrs. S. S. Merritt, Henry; Mrs. John Roberts, Roberts; paper, Points of Law which Women Should Understand, Miss Emma Strawn, Lacon; discussion, T. F. Clover, Henry; J. S. Thompson, Lacon; address, The Most Profitable Breed of Horses for the Farmer to Raise, F. J. Berry, Chicago; discussion, Robert Burgess, Wenona; J. O. Hill, Henry; paper, Is Fruit Culture Profitable in Marshall County, C. E. Burt, Henry; discussion, Frank Shelton, Toluca; paper, Kitchen Economy, Mrs. Peter Held, Varna; discussion, Fannie Vail, Henry.

Evening session, 7:30 o'clock.

Evening session will consist of a school contest in charge of Superintendent Malary. Music by quartette; each contestant to receive \$2.00; first prize in orations, \$4.00 Seth Thomas striking clock, by W. H. Stever; second prize in orations, one-half dozen photos, by C. E. Abbott; first prize in recitations, choice elocution book, J. M. Powers; second prize in recitations, umbrella, Hutchins-Lincoln Co. Admission 15 cents.

Saturday, December 2. 9:30 a. m.

Prayer, Rev. A. K. Tullis; paper, Poultry for Profit, W. S. Harrison, Henry; discussion, A. G. Kemp, Wenona; paper, The Past, Present and Future of the Cattle Business, Reuben Broadbush, Varna; discussion, A. C. Garvin, Wenona; J. E. Quinn, Henry; duet, Misses Clara Williams and Edna Powers, Henry; report of delegate to State Institute.



C. J. Held, Lacon.

A. L. Turner; paper, Adapting One's Self to Their Position in Life, Elsie Sperry, Lacon; discussion, J. M. Kirkpatrick, Henry; paper, What are the Most Profitable Grains for a Marshall County Farmer to Raise? B. M. Stoddard, Toluca; discussion, Andrew Baechler, Lacon; J. H. Williams, Putnam; John Turnbull, LaPrairie.

Recess to 1:30 p. m.

Recitation, Miss Edith Quinn, Henry; election of officers; paper, Most Profitable Breed of Sheep on the Farm, C. W. Monier, LaPrairie; discussion, M. J. French and H. A. Winter, Wenona; George Vail, Henry; address, Prevention of Smut in Oats, Prof. F. G. Holden, Champaign; paper, How Shall We Educate Our Boys for Successful Farmers? Willis Mills, Mt. Palatine; discussion, George Strawn, Lacon.

Officers elected for the ensuing year: President, C. J. Held, Lacon; Secretary and Treasurer, M. J. French, Wenona.

Average daily attendance, 260. Cost of Institute \$77.58.

Had an exhibit of corn, butter, bread and apples.

MASON COUNTY FARMERS' INSTITUTE.

The annual meeting was held in Frank's Opera House, Mason City, Ill., Wednesday and Thursday, October 4 and 5, 1899.

Officers—Charles Himmel, President, Bishops; George Weimer, Secretary, Topeka; Miss Lena McHarry, Treasurer, Mason City.



Chas. E. Himmel, Bishops.

Program—Wednesday, October 4. Morning session, 10 o'clock.

Music; invocation, Rev. Flagge, Mason City; address of welcome, Mayor Cargill; response, G. G. Hopping, Havana; Our Poultry Interests, J. W. Saffer, Mason City; Products of Corn, E. S. Fursman, El Paso, Ill.; election of officers.

Afternoon session, 1:30 o'clock.

Music; Corn Culture, E. S. Fursman, El Paso; discussion, J. W. McHarry, Havana; music; Stock Feeding, Ralph Allen, Delavan; discussion, T. N. Sutton, George Mathers, S. B. Spear, all of Mason City; Public Roads, E. A. Wallace, Havana; discussion, S. F. Porter, Mason City, J. G. Spalts, Manito; music.

Evening session, 7:30 o'clock.

Music; recitation, Guy Porter, Mason City; The Necessity and Relation of County, District and State Institutes, general discussion, Oliver Wilson, Magnolia, Ill.; music; Farming as a Progressive Science, G. W. Scarlet, Havana; discussion, B. D. Riner, Mason City; music.

Thursday morning, 10 o'clock.

Music; invocation; Horticulture and Fruit for the Farm, C. W. Whitnall, Peoria; discussion, W. W. Baker, Tallula, C. E. Himmel, Bishops; music; Clover as Feed and Fertilizer, Prof. F. G. Holden, Champaign; general discussion; music.

Afternoon session, 1:30 o'clock. Ladies' session.

Music; Intellectual and Social Culture on the Farm, Mrs. Dollie Harpman, Havana; The House We Live In, Mrs. Enlows; Government in the Home, Mrs. J. F. Lowers, Topeka; Domestic Economy, Mrs. Nellie Kedzie, Peoria; general discussion; music.

Officers elected for the ensuing year: President, Charles E. Himmel, Bishops; Secretary, Geo. H. Wiemer, Topeka; Treasurer, Mrs. Lenna Peine, Mason City.

Average daily attendance, 150. Cost, \$84.36.

MASSAC COUNTY FARMERS' INSTITUTE.

The annual meeting was held at Metropolis, Ill., November 21 and 22, 1899.

Officers—President, F. A. Armstrong, Massac; Vice-President, Andrew Davission, Metropolis; Secretary, Geo. C. Schneeman, Unionville; Treasurer, J. F. McCartney, Metropolis.

Program—Tuesday, November 21. Morning session, 10 o'clock.

Address of welcome, Mayor Frank Adams; response, President F. A. Armstrong; Rotation of Crops, J. M. Hollingsworth, Ridge Farm.

Afternoon session, 1 o'clock.

Cow Peas, J. F. McCartney, Metropolis; General Agriculture, S. C. Wagener, Pana.

Evening session, 7:30 o'clock.

Music; organization of Domestic Science Society; lecture, The Farmer's Boy, J. M. Hollingsworth, Ridge Farm.

Wednesday, November 22. Morning session, 9 o'clock.

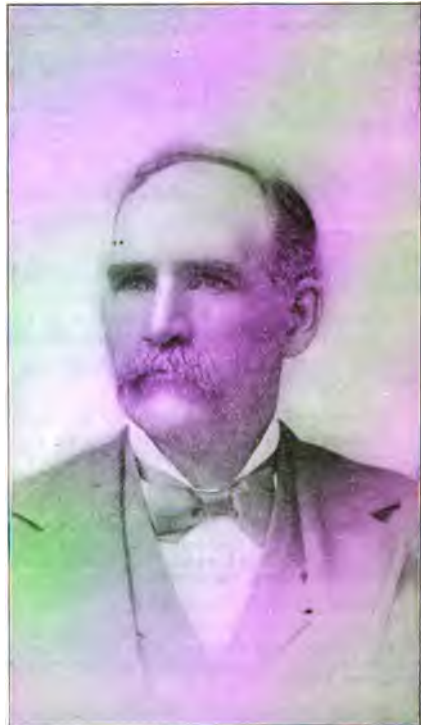
Wheat Culture, W. F. White, Cutler; Dairying, Andrew Davission, Metropolis; election of officers: miscellaneous business.

Afternoon session, 1 o'clock.

Soil Management, Prof. P. G. Holden, Urbana; Agriculture Education in the Rural Schools, J. M. Reynolds, County Superintendent, Metropolis. General discussion will follow each of the subjects.

Officers elected for the ensuing year: President, Geo. C. Schneeman, Unionville; Secretary, W. F. Cockerill, Metropolis; Treasurer, J. F. McCartney, Metropolis.

Average daily attendance, 100. Cost, \$98.66.



F. A. Armstrong, Massac.

MENARD COUNTY FARMERS' INSTITUTE.

Held in the court house, Petersburg, Ill., Tuesday and Wednesday, January 16 and 17, 1900.

Officers—H. A. Wood, Petersburg, President; J. H. Kincaid, Athens, Vice-President; I. H. Beard, Petersburg, Secretary; C. E. Smoot, Petersburg, Treasurer.

Program—Tuesday, January 16. Morning session, 10 o'clock.

Music; prayer, Rev. Theo. Kemp; report of secretary, I. H. Beard; report of treasurer, Charles Smoot; President's address, H. A. Wood; Mistakes of 1899, two minute talks; Coöperation Among Farmers, Col. Charles F. Mills, director of the 17th Congressional district, Springfield.

Afternoon session, 1:15 o'clock.

Music; address, Fireside Philosophy, Mrs. E. L. Gleason, Mendota; recitation, Henry Shipley; address, Clover Culture and Its Beneficial Results, Mr. Henry Wallace, Editor Wallace's Farmer, Des Moines, Iowa.

Evening session, 7:30 o'clock.

Music, Manhattan Quartette; address, The Country School, Hon. Alfred Bayliss, State Superintendent Public Instruction, Springfield; music; reading, Mrs. E. L. Gleason, Mendota, Ill.; address, Mr. Henry Wallace, Des Moines, Iowa.

Wednesday, January 17. Morning session, 9:30 o'clock.

Music; prayer, Rev. W. E. Olmstead; paper, Tuberculosis in Relation to Animal Industry and Public Health, Dr. W. J. Lawson, V. S.; paper, The Farm Telephone and Some Other Things, I. H. Beard; Jest Hog, Fred H. Rankin, Athens, Ill.

Afternoon session, 1:30 o'clock.

Music; recitation, Mata Grosboll; open parliament, conducted by ladies; topic, How to Make Country Homes More Attractive and Promote Sociability; music; recitation, Alice Ensley; paper, A Housekeeper's View on Pending Problems, Mrs. Lena Batterton; address, Rural Influences, Mrs. E. L. Gleason, Mendota, Ill.

Officers elected for the ensuing year: President, H. A. Wood, Petersburg; Secretary, I. H. Beard, Petersburg; Treasurer, C. E. Sweet, Petersburg.

Average daily attendance, 400. Cost, \$98.49. Had exhibits of grains, vegetables, fruits, dairy and culinary products.

MERCER COUNTY FARMERS' INSTITUTE

And the second annual meeting of the Domestic Science Association, Gilbert's Hall, Viola, Ill., December 14 and 15, 1899.

Officers of Institute: President, P. M. Carnahan, Aledo; vice president, John Montgomery, Aledo; secretary, R. M. Pinkerton, Viola; treasurer, J. G. Haverfield, Joy.

Officers of Association: President, Mrs. Willard Carter, Aledo; secretary, Mrs. Mary McHard, Aledo.

Program—Thursday, December 14. Morning session, 9:30 o'clock.

Prayer, Rev. G. D. Hensell; address, P. M. Carnahan, president Mercer County Institute; paper, The Farmers and Our County Fair, A. L. Woodhams and Samuel Durston, New Windsor.

Afternoon session, 1:30 o'clock.

Prayer, Rev. T. G. Morrow; piano solo, Miss Elisabeth Crosby; vocal solo, Miss Nellie Harkrader, Alexis; declamation, Herbie Smith; song, Bertha L. Stewart; address, Making an Orchard, What to Do and What not to Do and Why, F. L. Williams, Tamaroa, Ill.; question box, Alva Jary, Sunbeam, Ill.

Evening session, 7:30 o'clock.

Prayer, Rev. H. W. Fisk, D. D.; song, Gilchrist quartette; piano solo; declamation, Nora Morris; song, Lila Crosby; address, Education of Our Boys and Girls, Alfred Bayliss, superintendent of public instruction, Springfield, Ill.; song, quartette, short talk, C. L. Gregory, Aledo.

Friday, December 15. Morning session, 9:30 o'clock.

The Association of Domestic Science holds this session and the officers of the same will preside.

Prayer, Rev. G. D. Hensell; song, quartette; piano solo; election of officers; declamation, Maud E. Holmes; address, Disposal of the Waste, Mrs. W. B. Lloyd, Glenellyn, Ill.; song, quartette; discussion, Mrs. Mary McHard, Aledo, Ill.

Afternoon session, 1:30 o'clock.

Prayer, Rev. T. G. Morrow; song, quartette; declamation, Cora L. Stewart; piano duet; election of officers and delegates; song, quartette; address, Breeding and Management of Swine, G. A. Willmarth, president Illinois State Institute, Seneca, Ill.; song, quartette; question box opened, J. H. Coolidge, Galesburg; William McGaughey, Viola.

Officers elected for the ensuing year: President, A. L. Woodhams, New Windsor; secretary, H. Biglow, Aledo; treasurer, Elisha Lee, Hamlet.

Average daily attendance, 300; cost, \$108.71.

Had an exhibit of farm and culinary products.

MONROE COUNTY FARMERS' INSTITUTE.

The annual meeting was held at Court House, Waterloo, Illinois, Tuesday, Wednesday and Thursday, November 14, 15, 16, 1899.

Officers: President, John G. Schneider, Harrisonville; vice president, Louis Vogt Columbia; secretary, Wm. J. Harms, Kidd; treasurer, P. A. Maus, Waterloo.

Program—Tuesday, November 14. Morning session, 10 o'clock.

Music; address of welcome, Mayor Geo. W. Ziebold, Waterloo; response, John G. Schneider, Harrisonville, president Monroe County Farmers' Institute: How can Our County Roads be Improved with the Least Possible Expense, H. C. Niemann, Harrisonville, and D. D. Cullen, Kidd; Grain and Stock Feeding, Frank Moore, Chester.

Afternoon session, 1:30 o'clock.

Music; Winter Wheat, W. T. White, Cutler, Perry county; Cattle Raising, for the Dairy and for Market, Hon. J. W. Drury, Waterloo.

Evening session, 7:30 o'clock.

Vocal music by the Mandolin Nickel Block, Waterloo; address, G. A. Willmarth, Seneca, president Illinois State Farmers' Institute; a selection by the Mandolin Nickel Block, Waterloo; address, Prof. J. W. Jackson, superintendent Waterloo public school; vocal music.

Wednesday, November 15. Morning session, 9:30 o'clock.

Music; Hog Raising—Which Pays Best Under Present Condition, to Sell When Shoats or Fatten for Market, Blaser Schmidt, Waterloo; general discussion; appointment of committees.

Afternoon session, 1:30 o'clock.

Music; Woman's Work in Farmers' Institute, Miss Laura Patterson, Belleville; essay, Mrs. Dr. A. Whitmore, Waterloo; organization of a Domestic Science club; adjournment.

Thursday, November 16. Morning session, 9:30 o'clock.

Country Schools, P. R. Briegel, Columbia; How to Keep the Boys and Girls on the Farm, J. W. Rickert, Waterloo.

Afternoon session, 1 o'clock.

Reports of officers; reports of committees; election of new officers; appointment of delegates to State Institute.

Officers elected for the ensuing year: President, John G. Schneider, Harrisonville; secretary, William J. Harms, Kidd; treasurer, P. A. Maus, Waterloo.

Average daily attendance, 75. Cost, \$67.60.

THE 18TH CONGRESSIONAL DISTRICT FARMERS' INSTITUTE

Was held with Montgomery County Farmers' Institute, Raymond Ill., Tuesday, Wednesday and Thursday, December 12, 13, 14, 1899; E. W. Burroughs, Edwardsville, director 18th District.

Officers of Montgomery County Farmers' Institute: President, Edward Grimes, Raymond; secretary, E. C. Richards, Hillsboro; treasurer, A. A. K. Sawyer, Hillsboro.



Edward Grimes, Raymond.

J. R. Challacombe, Hillsboro; vocal solo, Miss Isa Miller, Hillsboro; paper, Kitchen Philosophy, Mrs. G. W. Paisley, Paisley; paper, Woman and Her Club, Mrs. Agnes Ball Thomas, Thomasville; recitation, Miss Gertrude Price, Irving; paper, How and Why I Raise Poultry, Miss Camilla Jenkins, Butler; paper, How Can the Domestic Science Association be Made Helpful to Farmers' Wives? Mrs. M. A. Fisher, Hillsboro; paper, My Experience With the Incubator, Mrs. Laura M. Thomas, Thomasville; vocal duet, Misses Grace Herman and Mollie Hughes, Raymond; address, Domestic Science, Mrs. Joseph Carter, president Illinois Association Domestic Science, Champaign; vocal solo, Minerva C. Thomas, Thomasville; A Leaf from My Cooking School Note Book, Miss Hattie Washburn, Hillsboro; address, Mrs. Nellie S. Kedzie, Bradley Polytechnic Institute, Peoria.

Evening session, 7 o'clock.

Music, Raymond orchestra; recitation, Miss Mabel Bowles, Raymond; address, Farm Homes, Hon. E. S. Fursman, El Paso; piano solo, Miss Myrtle Strider, Raymond; address, Western Horses, Mr. S. E. Simonson, White Oak; vocal solo, Miss Mollie Hughes, Raymond; recitation, Miss Blanch Elizabeth Day, Raymond; music, Raymond orchestra.

Thursday, December 14. Morning session, 9:30 o'clock.

Music, orchestra; prayer, Rev. W. P. Hoskins, Raymond; address, Soja Beans, Cow Peas and Clover, Dr. Robert C. Morris, Olney; discussion, Mr. Abe Brokaw, Litchfield; piano solo, Miss Mabel McGowan, Raymond; paper, Horticulture and Fruit Growing, Hon. W. A. Young, Butler; discussion, Mr. W. E. Hutchinson, Litchfield; address, Growing and Marketing Potatoes, Hon. E. W. Burroughs, Edwardsville.

Program—Tuesday, December 12. Morning session, 10 o'clock.

Music, Light Guard band, Hillsboro; prayer, Rev. W. P. Hoskins, Raymond; address of welcome, Dr. J. R. Seymour, Raymond; response, Vice President Arthur Ware, Butler; president's address, Hon. Edward Grimes, Raymond; reading minutes, E. C. Richards, Hillsboro; treasurer's report, A. A. K. Sawyer, Hillsboro.

Afternoon session, 1:30 o'clock.

Music, orchestra, Raymond; address, Feeding and Grazing Cattle for Profits, Mr. John G. Imboden, Decatur; discussion, Col. W. H. Fulkerson; Mr. John Turner and Mr. Robert Bryce, Butler; music, Wares Grove quartette, Butler; address, Breeding and Feeding Swine, Mr. L. A. Spies, St. Jacobs; Killing and Curing Meats, S. E. O'Bannon, Litchfield; Arthur Ware, Butler.

Evening session, 7:30 o'clock.

Music, Raymond orchestra; recitation, Miss Susie Day, Raymond; piano solo, Miss Grace Guller, Raymond; paper, Farm Telephone, Mr. C. C. Mills, Decatur; vocal solo, Miss Jessie Bradley, Raymond; address, How to Keep the Old Man on the Farm, Hon. Joseph Carter, Champaign; recitation, Miss Agnes Dryer, Butler; music, Hillsboro Light Guard Band.

Wednesday, December 13. Morning session, 9:30 o'clock.

Music, Raymond orchestra; prayer, Rev. J. McDonald, Raymond; address, Clover, Hon. Joseph Carter, Champaign; paper, Sheep Industry, Mr. Lyman Ware, Butler; discussion, Mr. Mark Sloman, White Oak; Mr. Cyrus Fitzgerald, Raymond; music, piano solo, Miss Ora Hudleson, Farmersville; address, Veterinary Science, Dr. C. C. Mills, Decatur; discussion, Mr. John Turner, Butler.

Afternoon session, 1 o'clock. Domestic Science session.

Prayer, Rev. J. McDonald, Raymond; song, America, audience; address of welcome, Mrs. H. H. Moore, Raymond; response, Mrs.

Afternoon session.

Music, Wares Grove orchestra; address, Corn, Hon. E. S. Fursman, El Paso; music, vocal solo, Miss Mollie Hughes, Raymond; Roundup, Hon. E. W. Burroughs, director 18th Congressional District, Edwardsville; piano solo, Miss Myrtle Starr, Hillsboro; election of officers.

Officers elected for the ensuing year: President, Edward Grimes, Raymond; secretary, E. C. Richards, Hillsboro; treasurer, W. A. Beatty, Raymond.

Average daily attendance, 1,900. Cost, \$149.02.

MORGAN COUNTY FARMERS' INSTITUTE.

The annual meeting was held at Jacksonville October 18, 19 and 20, 1899.

Officers—President, W. H. Stevenson; vice president, Chas. A. Rowe; treasurer, R. S. Wood; secretary, A. C. Rice, Arnold.

Program.—Wednesday morning, 10 o'clock.

Prayer; music; address of welcome, Jas. H. Danskin; response, President W. H. Stevenson; music; Weed Pests and Methods of Eradication, James Ranson.

Wednesday afternoon, 1:30 o'clock.

Music; Management of Swine, Eli McLaughlin, Winchester; music; How to Make Farm Life Attractive, John B. Joy, Concord; music; Marketing Farm Products, Stansfield Baldwin. Music furnished by Illinois Conservatory of Music.

Thursday morning, 9:30 o'clock.

Prayer; music; Conserving the Fertility of the Soil, H. B. Rice, Lewistown; Clover, general discussion; music; Value of Manure, Hon. A. P. Grout, Winchester; Cow Peas, C. A. Rowe.

Thursday afternoon, 1 o'clock.

Election of officers; music; Corn Culture, Prof. P. G. Holden, University of Illinois, Urbana; music; reading of prize essays: The Sugar Beet Industry, Prof. P. G. Holden, University of Illinois. Music furnished by the College of Music.

Friday morning, 9:30 o'clock.

Prayer; music; The Cattle Feeding Problem, A. C. Rice, Arnold; discussion, led by J. W. Cleary; music; The Horse, Hon. John Landrigan, Albion; music.

Friday afternoon, 1:30 o'clock.

Music; The Good Roads Movement, Chas. W. Brown, City Engineer, Jacksonville; music; session of the Woman's Country Club; music; Relation of Science to Agriculture, Prof. T. P. Carter, Illinois College; sale of exhibits. Music furnished by the School for the Blind.

Officers elected for the ensuing year: President, W. H. Stevenson, Jacksonville; secretary, A. C. Rice, Arnold; treasurer, R. S. Wood, Jacksonville.

Average daily attendance, 500; cost, \$34.16. Had exhibits of grains, fruits, vegetables and culinary products.

MOULTRIE COUNTY FARMERS' INSTITUTE.

The annual meeting was held at Sullivan November 10 and 11, 1899.

Officers—President, Thomas H. Crowder, Bethany; secretary, G. W. Monroe, Sullivan; treasurer, Harmon Huffman, Lovington.



Thomas H. Crowder, Bethany.

Program.—Friday, 10 a. m.

Invocation, Rev. E. W. Brickert, Sullivan; welcome address, Mayor Isaac Hudson; response, T. H. Crowder, president Moultrie County Farmers' Institute; music, Cadwell Quartette; Farmers' Institute, E. W. Burroughs, director 18th Cong. District Institute; music.

1:30 o'clock p. m.

Prayer, Rev. Clarence Reed, Sullivan; music; Cattle Feeding and Grasing for Profit, J. G. Imboden, Decatur; music; The Horse, J. L. Bone, D. V. S., Bethany; music.

7:30 o'clock p. m.

Prayer, Rev. G. H. Turner, Sullivan; music, Christian Church Choir; recitation, Gorda Idleman, Lovington; address, A. B. Hostetter, secretary; music, Cadwell Quartette; short address, Mrs. H. M. Dunlap, Savoy; What I Know About Farming, Frank Spitler; song, M. E. C. H. Quartette; address, T. J. Burrill, Urbana.

Saturday, 10 a. m.

Prayer, Rev. S. R. Harshman, Sullivan; business meeting; music; Broom Corn Culture, Levi Seass, Cadwell; Swine Breeding and Feeding, G. A. Willmarth, president State Farmers' Institute; address, T. J. Burrill, Urbana.

1:30 o'clock p. m.

Prayer, Rev. Mrs. Musselman, Sullivan; duet, Lorah and Lizzie Monroe, Sullivan; address, Mrs. H. M. Dunlap, Savoy; solo, Miss Gertrude Meeker, Sullivan; Our Farmer Girls, Miss Jessie Edminston, Sullivan; address on Domestic Science, Mrs. Challacombe, Hillsboro; solo, Miss Willy Smyser, Sullivan.

Officers elected for the ensuing year: President, Thomas H. Crowder, Bethany; secretary, G. W. Monroe, Sullivan; treasurer, Harmon Huffman, Lovington.

Average daily attendance, 200; cost, \$94.

OGLE COUNTY FARMERS' INSTITUTE.

The annual meeting was held in the City Hall, Rochelle, Ill., Wednesday and Thursday January 10 and 11, 1900.

Officers—President, Charles King, Kings; vice president, Charles Walkup, Oregon; secretary and treasurer, Dwight Herrick, Roshelle.

Program—Wednesday, January 10, afternoon, 1 p. m.

Music, Harp Orchestra; prayer, Rev. Crouse; address of welcome, Mayor Ettlinger; response, Hon. James Wilson, Woodsum; Fireside Philosophy, Mrs. E. L. Gleason, Mendota; Agricultural Education, G. A. Willmarth, president Illinois State Institute, Seneca; Farm Fences, Henry Talbot, Lindenwood; Dairying as an Adjunct to General Farming, D. W. Wilson, Elgin.

Evening, 7:30 p. m., Opera House.

Overture, Harp Orchestra; prayer, Rev. Murray; Home Making, Mrs. W. B. Lloyd, Glen Ellyn; Male Quartette, Rev. Crouse, W. H. Williams, Dr. Elmer, A. E. Rasmussen; reading, Miss Winnifred Ladd; Male Quartette, Clarence Gardner, R. E. Sipe, John Bain, Charles Wiley; Keeping the Boy on the Farm, Prof. J. L. Hartwell, Dixon; reading, Mrs. E. L. Gleason, Mendota; Ladies' Quartette; reading.

Thursday, January 11, morning, 9:30 a. m.

Music; prayer, Rev. Baker; election of officers for ensuing year and treasurer's report; Farm Buildings—Their Convenience and Profit, C. W. Johnson, Grand Detour; Profits in Horse Raising, general discussion, Chas. Walkup, Oregon, leading; Hog Raising, S. W. Myers, secretary Northern Illinois Swine Breeders Association, Sugar Grove; Poultry on the Farm, Miller Pervis, Lake Forest; Rural Influences, Mrs. E. L. Gleason, Mendota; The Farmer's Garden, Mrs. Emma Hey, Dixon.

Afternoon, 1 p. m.

Music; prayer, Rev. Tibbles; Fruits for the Farmer and How to Grow Them, J. L. Hartwell, Dixon; Special versus General Farming, B. F. Wyman, Sycamore; The Work of Our Experiment Station, Prof. P. G. Holden, Champaign; Foods and Nutrition, Mrs. J. D. Page, Princeton; The Field of the Institute, Amos F. Moore, director 9th Congressional District.

Officers elected for the ensuing year: President, A. F. Moore, Polo; secretary, Alvin Joiner, Polo; treasurer, Alvin Joiner, Polo.

Average daily attendance, 400; cost, \$107.23. Next Institute at Polo with the 9th District January 23-25, 1901.



Chas. King, Kings.

PEORIA COUNTY FARMERS' INSTITUTE.

The annual meeting was held at Alta, Ill., February 15 and 16, 1900.

Officers—President, Chas. T. Woodman, Alta; vice president, Wm. West, Hanna City; secretary and treasurer, Arthur Yates, Dunlap.

We would ask those within driving distance to bring your lunch baskets along. A committee at Alta will receive the baskets and spread therefrom a co-operative meal for all in the dining room of the hall, and supply tea and coffee free. Come all, and bring your neighbors.

Program.—Thursday, February 15, afternoon session, 1:30 p. m.

Invocation, Rev. H. Apple, North Peoria; address of welcome, Chas. Mayo, Alta; response, Hon. G. A. Willmarth, Seneca; president's address, Chas. T. Woodman, Alta; address, Fruit on the Farm, Capt. H. Augustine, Normal; discussion; address, Type and Quality in Farm Stock, A. P. Grout, Winchester; discussion. Music will be in charge of Sallie S. Maxwell, Peoria.

Evening session, 7:30 p. m.

Address, Poultry for the Average Farmer, Ira Cottingham, Eden; query box, supervised by Dr. Tolson, Alta; address, Higher Education for Women, as Regards Better Housekeeping and Home Making, Lina Brennehan, Minier; paper, S. B. Keady, Dunlap. Music will be in charge of Chas. T. Woodman, Alta.

Friday, February 16, morning session, 10 a. m.

Address, Tile Drainage of Farm Land, Thos. S. McClanahan, Monmouth; address, Soil Fertility, Wm. West, Hanna City; discussion; election of officers.

Afternoon session, 1:30 p. m.

Address, Agricultural Education, Hon. G. A. Willmarth, Seneca; address, What Should be the Farmer's Chief Aim, and the Best Method of Obtaining It! Hon. O. J. Bailey, Peoria; address, Breeding and Feeding of Dairy Animals, Prof. W. J. Kennedy, College of Agriculture, Urbana. Music in charge of Mrs. Isabel Wakefield, Salem.

Officers elected for the ensuing year: President, Charles T. Woodman, Alta; secretary, A. H. Yates, Dunlap; treasurer, A. H. Yates, Dunlap.

Average daily attendance, not reported; cost of Institute, \$72.73.

PERRY COUNTY FARMERS' INSTITUTE.

The annual meeting was held at the court house, Pinckneyville, Illinois, Thursday and Friday, November 23 and 24, 1899. Officers: President, F. A. Williams, Tamaroa; Vice-president, John McLaughlin, Campbell Hill; secretary, F. C. Paige, Tamaroa; treasurer, F. P. Anderson, Pinckneyville.



F. A. Williams, Tamaroa.

tural College, Champaign; discussion, Wm. St. Johns. Question box opened.

Program—Thursday, November 23.

Morning session, 9:30 o'clock.

Music; Invocation, Rev. Stierwalt, Pinckneyville; address of welcome, Mayor G. F. Mead, Pinckneyville; response, President F. A. Williams, Tamaroa; Cow Peas and Soja Beans, Chas. Siebert; discussion, Wm. H. Jackson, Tamaroa, Rev. John Keith, Sunfield, E. M. Harris, DuQuoin; Fertilisation for Wheat, Wm. E. Braden, Cutler; discussion, A. H. Thompson, Matt Robb, Swanwick. Bee Raising for Profit, Mr. Brayshaw, DuQuoin, John McLaughlin, Campbell Hill.

Afternoon session, 1:15 o'clock.

Poultry for Home and Market, Geo. M. Ames, Tamaroa; discussion, John S. Neely, Sunfield, W. C. Marlow, Sunfield, Wm. Edgerton, Tamaroa; How and When to Spray for Fruit, H. M. Dunlap, president Illinois State Horticultural Society, Savoy; Domestic Science, or Better Methods in our Homes, Mrs. H. M. Dunlap, Savoy; How I Succeeded in Growing Clover, S. T. Campbell, Rodney; discussion, Henry Kaufman, Tamaroa; M. Wheatley, Tamaroa; question box, opened by secretary; appointing committees.

Evening Session, 7:30 o'clock.

Music; Ornamenting School Grounds, F. L. Williams, Tamaroa, M. N. Corn, superintendent Pinckneyville schools; Agricultural Education, G. A. Willmarth, president Illinois State Farmers' Institute, Seneca; Woman's Work in Farmers' Institutes, Miss Laura Patterson, Belleville; short talks by delegates from other Farmers' Institutes.

Friday, November 24, morning session, 9:30 o'clock.

Music; Invocation, Rev. C. M. Richie, Pinckneyville; Clearing Timber Land, Wm. Jackson, DuQuoin; discussion, Geo. Wonderlich, Swanwick, Enoch Eaton, Pinckneyville, Richard Lee, Sunfield; Keeping a flock of Breeding Ewes at a Profit, H. D. Hughes, Antioch; discussion, Geo. Heape, Tamaroa, J. O. Rice, Tamaroa; The Telephone in Rural Communities, Philip Feaman, Cutler; Silo and Dairying, W. J. Fraser, Agricultural College, Champaign; discussion, Wm. Hammack, Pinckneyville, Samuel Cotton,

Afternoon session, 1:15 o'clock.

The Outlook for the Farmer, W. T. White, Cutler; Breeding and Management of Swine, G. A. Willmarth, president Illinois State Farmers' Institute, Seneca; discussion, W. B. King, Holts, Arthur C. Hodge, Sunfield; Reading Matter in the Farm Home, M. W. Pugh, Tamaroa; Corn Culture, P. G. Holden, Agricultural College, Champaign; discussion, A. H. Evans, Tamaroa, W. C. Meyers, Tamaroa, Ed House, Sunfield; How I Fenced My Farm, H. D. Hughes, Antioch; report of committees and business meeting.

Officers elected for ensuing year: President, F. A. Williams, Tamaroa; secretary, F. C. Paige, Tamaroa; treasurer, John Lemmen, Pinckneyville.

Average daily attendance, 175. Cost, \$99.55.

PIATT COUNTY FARMERS' INSTITUTE.

The annual meeting was held at Monticello, March 21 and 22, 1900.

Officers: President, C. J. Bear, Monticello; secretary, Charles Lamb, Jr., Bement; treasurer, J. P. Ownby, Monticello.

Program—Wednesday, 9 a. m.

Call to order; song, America; prayer, Rev. H. G. Gleiser; address of welcome, Mayor J. E. Andrew; response, F. V. Dillatush; minutes of 1899, secretary; report of treasurer, J. P. Ownby; address of president, C. J. Bear; appointment of committees.

1:15 p. m.

Call to order; solo, Mrs. Louis Bales; music; paper; music; address, Julia Lathrop, Hull House, Chicago; discussion; solo; address, Mrs. Flo. Miller; music.

7 p. m.

Music; address, The Needs of Our Country Schools, Chas. McIntosh, County Superintendent Schools; music; address, Agricultural Education, G. A. Willmarth, president Illinois State Farmers' Institute.

Thursday, 9 a. m.

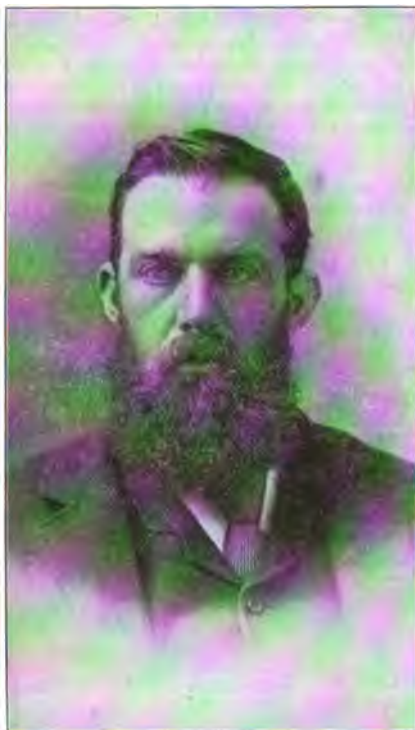
Music; prayer, Rev. W. S. Calhoun; The Farmer, F. A. Odenheimer; Problems of Our Farmers, W. C. Hubbert; discussion; Corn Breeding and Culture, A. D. Shamel, University of Illinois; general discussion; Results from Listing Corn, Samuel W. Allerton; discussion; music; How to Make Farming Profitable and Maintain Soil Fertility, E. M. Dobson; general discussion; Shall We Raise our Own Potatoes, James W. Smith.

1:15 p. m.

Call to order; music; election of officers; report of committees; music; Are the Farmers of Illinois Making the Best Use of Their Opportunities, Wiley M. Dewees; Good Roads Without Rock, Sand or Gravel, C. H. VanVleck, Philo; discussion; Poultry, Dr. L. T. Pease; music; Type and Quality of Live Stock (illustrated), A. P. Grout, Winchester; Value of the Score Card in Judging Swine, C. L. Burgess.

Officers: President, C. J. Bear, Monticello, secretary, Thomas Lamb, Jr., Bement; treasurer, J. P. Ownby, Monticello.

Average daily attendance, 150. Cost of Institute, \$99.20.

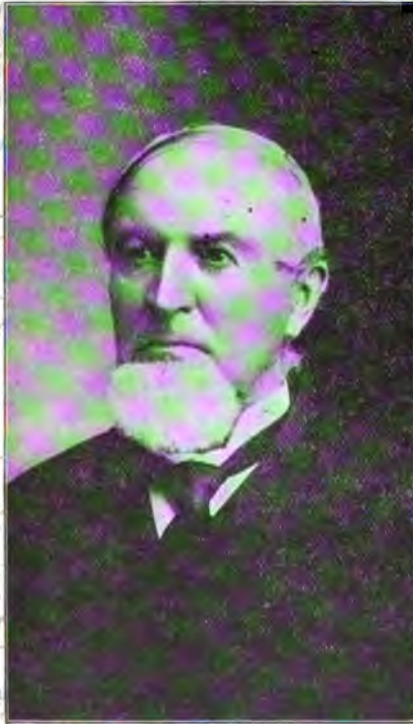


C. J. Bear, Monticello.

PIKE COUNTY FARMERS' INSTITUTE.

The annual meeting was held at the opera house, Griggsville, Ill., Thursday and Friday, December 14 and 15, 1899.

Officers—President, J. M. Bush, Pittsfield; Secretary, C. G. Winn, Griggsville; Treasurer, Robert Anderson, Griggsville.



J. M. Bush, Pittsfield.
field; Future Prospects of the Farm, C. Bolin, Milton; Types of Animals (Illustrated), A. P. Grout, Winchester.

Evening session, 7:30 p. m.

The Horse, Norman J. Coleman, St. Louis.

Officers elected for the ensuing year: President, H. J. Westlake, Pittsfield; Secretary, W. A. Reed, Pittsfield; Treasurer, W. R. Wilsey, Pittsfield.

Average daily attendance, 500. Cost, \$130.40.

Program—Thursday, December 14. Morning session, 9:30 a. m.

Call to order, J. M. Bush, President; invocation, Rev. J. M. Burton; Hard Roads, H. Thornberry, Perry; The Hog, Thos. Pence, New Salem; discussion, G. W. Witham, Perry; Dr. Reynolds, El Dara; Sam Smart, Detroit.

Afternoon session, 1:30 p. m.

Corn Culture, W. H. Rowe, Jacksonville; discussion, Dr. G. Smith, G. R. Newman, Griggsville; E. Whittleton, Barry; Losses from Inferior Live Stock—How to Prevent Them, Eugene Davenport, Urbana; Poultry Raising, Mrs. G. M. Hanley, Hoopeston; discussion, Mrs. H. Cohenour, Pittsfield; Mrs. Johnson, Perry; Mrs. Lasbury, Griggsville.

Evening session, 7:30 p. m.

Farm Homes, E. S. Fursman, El Paso; Education of Our Girls, Mrs. Henry M. Dunlap, Savoy.

Friday, December 15. Morning session, 9:30 a. m.

Opening prayer, Rev. J. H. Hehl; When and How to Spray, Henry M. Dunlap, Savoy; discussion, F. Shaw, Summerhill; W. Perry, Milton; Cow Peas and Soja Beans, W. H. Stoddard, Carlinsville; discussion, M. M. Lasbury, Griggsville; R. J. Wilsey, Pittsfield.

Afternoon session, 1:30 p. m.

Feeding and Grazing Cattle, J. G. Imboden, Decatur; discussion, Wm. Hammet, Perry; J. Walker, Perry; Vine Wills, Pittsfield.

POPE COUNTY FARMERS' INSTITUTE.

The annual meeting was held at Golconda, Illinois, Friday and Saturday, November 3 and 4, 1899.

Officers: President, Henry Walters, Waltersburg; secretary, A. H. Floyd, Golconda; treasurer, H. W. Wellman, Golconda.

Program—Friday, November 3, morning session, 9:30 o'clock.

Music; prayer, Dr. Stevenson, Golconda; address of welcome, J. C. Thompson, Golconda; response, Jno. Hodge, Golconda; Object of Farmers' Institute, J. R. Steagall, Hodgeville, G. A. Willmarth, Seneca; music; Roads—Should We Appeal to the State for Aid in Building Roads, Joe W. King, D. G. Thompson, and W. S. Morris, Golconda.

Afternoon session, 1:00 o'clock.

Music; Beef Cattle—Best Breed and How to Feed, John R. Harper, Rock Quarry, N. Mosely, Grantsburg, and G. W. Moyers, Golconda; music; How to Increase and Keep Up the Fertility of the Soil, A. H. Floyd and G. A. Willmarth, Seneca.

Saturday, November 4, morning session, 9:00 o'clock.

Music; Prayer, Rev. J. C. Thompson, Golconda; Wheat—How to Cultivate and Raise the Best Crops, J. N. Maynor, Eddyville; Henry Bath, Sr., Golconda, J. F. Homberg, Geo. Blatter, Rising Sun; Spraying, Prof. J. C. Blair, Champaign; How Can We Obtain Better Roads Under the Present Law, J. J. Belford, Golconda, Geo. Gebauer, Rising Sun, W. C. Holmes, Temple Hill.

Afternoon session, 1:00 o'clock.

Music; Does it Pay to Raise Horses and Mules? Ed. Keltner, Glendale; J. R. Steagall, Hodgeville, and Thomas Austin, Rock. What Have I Learned About Farming in the Past Year? S. E. Vaughn, Golconda, and H. W. Wellman, Golconda; Prof. J. C. Blair, Champaign, G. A. Willmarth, Seneca; election of officers.

Officers elected for the ensuing year: president, George Gebaur, Rising Sun; secretary, A. H. Floyd, Golconda; treasurer, H. W. Wellman, Golconda.

Average daily attendance, 500. Cost \$82.12.



Henry Walters, Waltersburg.

PULASKI COUNTY FARMERS' INSTITUTE.

Pulaski County Institute held two meetings during the past year.

Officers—President, F. E. Graves, Villa Ridge; Secretary and Treasurer, H. S. McGee, Villa Ridge.

Program—Friday, March 10, 1899. Morning session, 10 o'clock.

Music; prayer; address of welcome, President I. N. Taylor; response, L. N. Beal; How to Raise and Care for Grain, A. G. Lents; discussion.

Afternoon session, 1 o'clock.

Insects Injurious to Orchards, Prof. George H. French; discussion; Dairying, Mrs. E. G. Britton; discussion.

Evening session, 7:30 o'clock.

Music; recitation; Institute Work, L. N. Beal; discussion; Our Country Roads, F. E. Graves; adjournment.

Saturday, March 11. Morning session, 10 o'clock.

Marketing Fruit, J. W. Stanton; discussion; election of officers.

Afternoon session, 1 o'clock.

Treatment of Soil in Dry Weather, Prof. J. C. Blair; discussion; Canning Industry, J. F. Connell; discussion.

Question Box. A miscellaneous and interesting feature will be a question box. Those who attend may write any question pertaining to subjects of interest to farmers, handing the slip on which the question is written to the secretary. These will be read off from time to time, the answers to be furnished by extemporaneous speaking from the audience. It is hoped to make this feature valuable in the interchange of ideas.

Second meeting in Grange Hall, Villa Ridge.

Program—Monday, 10 a. m.

Invocation and music; address of welcome, I. H. Conant; response, E. J. Ayers; Raising Potatoes Under Straw, A. Spence; music; Raising Live Stock in Pulaski County, Thomas Steers.

Afternoon, 1:30.

Fertility of Soil, N. J. Coleman, of St. Louis; music; Tiling Swamp Land, J. H. Kinker; Farmers' Reading Matter, S. A. Coldwell; music; Injurious Insects, Prof. G. H. French, of Carbondale, Ill.

Evening, 7:30.

A nice literary program will be arranged.

Tuesday forenoon, 10 o'clock.

Diversified Farming, D. W. Prindle; Stock Feeding from a Standpoint of Fertility, Prof. Eugene Davenport, of the State University; music; Diseases of Cattle and Horses, D. O. Melton; Marketing Fruit, J. F. Wilson, followed by H. G. Hogendobler.

Afternoon, 1:30.

Making an Orchard—What to do and Why; and Ornamenting School Grounds, F. L. Williams, Tamaroa; Grape Culture, E. J. Ayers; election of officers; Grass Culture, H. G. Easterly, Murphysboro; adjournment.

Officers elected for the ensuing year: President, F. E. Graves, Villa Ridge; Secretary and Treasurer, H. L. McGee, Villa Ridge.

Average daily attendance, first meeting, 25. Cost, 70.96.

Average daily attendance, second meeting, 100. Cost, \$72.10.

PUTNAM COUNTY FARMERS' INSTITUTE.

The annual meeting was held at Putnam, December 20 and 21, 1899.

Officers—President, E. B. Cutler, Florid; Secretary and Treasurer, F. E. Smith, Clear Creek.



E. B. Cutler, Florid.

Program, Wednesday morning, 10:30.

Prayer, Rev. Weaver; music; address of welcome, Rev. Cimson; response, W. B. Mills; music; president's address, E. B. Cutler; recess, dinner—12:30 p. m.

Afternoon session, 1:30. Music; The Chemistry of Cooking, Mrs. W. B. Lloyd, Glen Ellyn, Ill.; Mistakes on the Farm, J. O. Winship, Putnam, Ill.; discussion, John Swaney, Clear Creek, Ill.; music; Agricultural Education, G. A. Wilmarth, Seneca, Ill.; Better Rural Schools, W. E. Hawthorne, Granville, Ill.; discussion, Naomia Williams, Putnam, Ill.; Mattie Wilson, Magnolia, Ill.; music.

Thursday morning, 9:30.

music; Prayer, Rev. Weaver; music; The Breeding and Management of Swine, G. A. Wilmarth; discussion, John Wilson, Lostant, Ill.; M. E. Newburn, Hennepin, Ill.; Some Needed Legislation, J. E. Taylor, Hennepin, Ill.; discussion, O. P. Carroll, Putnam, Ill.; J. E. Barnard, Granville, Ill.; Saving the Fertility of the Farm, P. C. Holden, Urbana, Ill.

Afternoon session, 1:30.

Music; election of officers; Breeding Improved Live Stock, Elmer Quinn, Henry, Ill.; discussion, James B. Thornton, Magnolia, Ill.; A. B. Wilson, Magnolia, Ill.; Farmers' Organization, their Benefit and Necessity, Oliver Wilson, director 14th District, Magnolia, Ill.; question box, under the management of Mrs. Albert Stickel and Miss Effie Bracken.

Officers elected for the ensuing year.—President, E. B. Cutler, Florid; Secretary, F. E. Smith, Clear Creek; Treasurer, F. E. Smith, Clear Creek.

Average daily attendance, 200. Cost, \$56.86. Had an exhibit with liberal premiums on farm, dairy and culinary products.

RANDOLPH COUNTY FARMERS' INSTITUTE.

The Twenty-first Congressional District Farmers' Institute was held with the Randolph County Farmers' Institute, W. E. Kimzey, Tamaroa, director 21st District, in Sproul's Opera House, Sparta, Illinois, November 15, 16 and 17, 1899.

Officers of the Randolph County Farmers' Institute: President, W. H. Wilson, Baldwin; secretary, J. M. Clark, Sparta; treasurer, J. W. Caldwell, Sparta.

Program—Wednesday, November 15, morning session, 10:00 o'clock.

Arrangement of exhibits; invocation; address of welcome, Mayor John Watson, Jr., Sparta; response, President W. H. Wilson, Baldwin; appointing committees.

Afternoon session, 1:15 o'clock.

Paper—Crop Rotation, John T. Nixon, Marissa; Coöperation in Horticulture, R. H. Allen, Sparta; Insects Injurious to Wheat, E. C. Green, Urbana; discussion; question box.

Evening session, 7:30 o'clock.

Paper—Order in the Home, Mrs. J. M. Clark, Sparta; Bee Keeping, C. H. Thies, Steelesville; Paper—What Are We Doing for Our Boys, Mrs. Lydia B. Stewart, Schulines; Address, Hon. R. E. Sprigg, Chester.

Thursday, November 16, morning session, 9:30 o'clock.

Prayer; paper—Building Up a Run Down Farm, D. M. Hathorn, Blair; Fertilization for Wheat, W. E. Braden, Cutler; discussion: Fruits for Home Use, A. A. Hinkley, DuBois; Commercial Apple Growing, J. W. Stanton, Richview; discussion.

Afternoon session, 1:15 o'clock.

Question box; My Experience in Feeding Beef Cattle, G. W. Wilson, Sparta; Mistakes and Leaks on the Farm, S. C. Wagner, Pana; Grain and Stock Raising, Frank Moore, Chester.

Evening session, 7:30 o'clock.

Agricultural Education, G. A. Willmarth, Seneca; Twentieth Century Education—What It Should be, Prof. S. A. McKelvey, Sparta.

Friday, November 17, morning session, 9:30 o'clock.

Invocation; Sheep Husbandry, M. A. Dennis, Sparta; Cow Peas, T. J. Cross, Shiloh Hill; Outlook for the Farmer, W. T. White, Cutler; Home Dairying, J. C. Richie, Marissa, W. C. Patton, Sparta; discussion; question box.

Afternoon session, 1:00 o'clock.

Business meeting; paper—Woman's Work in the Farmers' Institute, Miss Laura Pater son, Belleville; address—Hints on Raising the Farmer's Most Important Crop—Its Boys and Girls, Rev. J. L. Chestnut, Coulterville; address—Our Needs, W. R. Kimzey, Tamaroa.

Officers elected for the ensuing year: President, James M. Clark, Sparta; secretary, William A. McIntire, Sparta; treasurer, Thomas L. McMillan, Sparta.

Average daily attendance, 300. Cost \$77.08.

RICHLAND COUNTY FARMERS' INSTITUTE.

The annual meeting was held in the court house, Olney, Ill., Thursday and Friday, December 7 and 8, 1899.

Officers—President, W. E. Poland, Olney; Secretary and Treasurer, F. Britton, Calhoun.

Program—Thursday, December 7. (Morning session, 10 o'clock.)

Invocation, Rev. Hough, Olney; address of welcome, Mayor Wilson, Olney; response, President Poland, Olney; paper, Her Own Selection, Mrs. Parker Jackson, Calhoun; music, Miss Ella Wheeler, Olney; paper on Domestic Science, Mrs. S. Rose Carr, Lis, Ill.

Afternoon session.

Music by Miss Wheeler; recitation, the Misses Adamsons, Claremont; paper, How to Keep the Boys and Girls on the Farm, Mrs. Charles Mace, Olney; The Poultry Industry, Glen Wilson, Olney; general discussion, led by J. B. Delzell, Olney; Grasses for Forage and Hay, Chas. Mace, Olney; G. W. Wheeler, Olney; The Broom Corn Industry, S. R. Duncan, Arcola; general discussion, led by B. F. Heap, Olney.

Evening session.

Music by Mandolin Club; recitation, Miss Nettie Poland, Olney; music by Olney Mandolin Club; recitation, Miss Stella Groff, Claremont; address, Does Farming Pay, Rev. J. O. Hough, Olney; music by Mandolin Club; recitation by Earl Daily, Olney; music by Mandolin Club; recitation, Miss Margaret Balmer, Olney; music by Mandolin Club.

Friday, December 8. Morning session.

Music by Berryville Quartet; invocation; Baby Beef, or How to Raise Cattle for Profit, Robert Kingsbury, Pinkstaff; general discussion, led by Phil Heltman, Olney; music by Quartet; address, Coöperation Among Farmers, Chas. F. Mills, Springfield.

Afternoon session.

Music by Quartet; Swine Breeding for Profit, L. A. Spies, St. Jacob; general discussion, led by Ed. Phillips, Olney; Orchard Cultivation and Spraying, H. A. Aldrich, Neoga; general discussion, led by Chas. Vanausdel, Olney; recitation, Miss Canby, Berryville; music by Quartet; election of officers for 1900.

Officers elected for the ensuing year: President, Ed. Phillips, Olney; Secretary and Treasurer, Frank Britton, Calhoun.

Average daily attendance, 500. Cost, \$70.50.



W. E. Poland, Olney.

ROCK ISLAND COUNTY FARMERS' INSTITUTE.

Rock Island county held two Institutes during the past year, one of three sessions at Edgington, December 19, 1899, and the annual meeting at Port Byron January 18 and 19, 1900.

Officers: President, W. H. Wheaton, Reynolds; Secretary, Eli Corbin, Carbon Cliff; Treasurer, F. H. Caldwell, Milan.

Program December 19, 1899, morning session.

Invocation, Rev. T. R. Johnson; music; address of welcome, Dr. Miller; response, president; music; Farm Dairying, Thomas Campbell; discussion and questions; The Silo and Silage, S. W. Slater; questions and discussion; music.

Afternoon Session.

Music; Life on the Farm, W. S. McCullough; discussion; music; Sheep Farming, John Eckhardt; questions and discussion; Swine Farming, B. F. Fountaine; discussion; music; business session; adjourn to 7:15.

Evening session.

Opened with prayer, Rev. T. R. Johnson; music; recitation, Mrs. Miller; Fruits on the Farm, Eli Corbin; questions and discussion; singing; Our Common Schools, S. J. Ferguson; general discussion of the township school question.

Program—January 18, morning session, 10 a. m.

Music; invocation, Rev. J. C. Craine, Port Byron; address of welcome, E. M. Rogers, Port Byron; response by president, W. H. Wheaton, Reynolds; Swine Industry, S. L. Woodburn, Port Byron.

Afternoon session, 1:30 p. m.

Opened by music; Poultry for Profit, B. F. Wyman, Sycamore; Dairy Management, J. H. Marshall, Coe, W. H. Wheaton.

Evening session, 7:30.

Music; recitation, Mrs. Dr. Miller, Edgington; Our Common Schools, Supt. S. J. Ferguson, Rock Island; recitation, Clarence Walther, Port Byron.

January 19—morning session, 10 a. m.

Election of officers; Seed Corn and Preparation of Soil for Corn, Henry Carpenter, Edgington; Cultivation and Harvesting Corn, F. A. Wood, Edgington.

Afternoon, 1:30.

Music; Truck Farming, W. S. McCullough, Taylor Ridge; Special Breeds of Dairy Cows; B. F. Wyman, Sycamore; discussion after each topic; music as often as can be made convenient by the committee.

Officers elected for the ensuing year; president, W. H. Wheaton, Reynolds; secretary, Eli Corbin, Carbon Cliff; treasurer, L. B. Strager, Rock Island.

Average daily attendance, 100; cost, \$58.71 for two institutes.



W. H. Wheaton, Reynolds.

SALINE COUNTY FARMERS' INSTITUTE.

The annual meeting was held at Harrisburg, November 8 and 9, 1899.

Officers—President, J. J. Jones, Eldorado; Secretary, H. S. Anderson, Harrisburg; Treasurer, W. E. Mitchell, Eldorado.



J. J. Jones, Eldorado.

Program, Wednesday, November 8, 10:00 a. m.

Address of welcome, Mayor B. F. Rice; response, President John J. Jones; Management of Small Fruits, W. H. Evans; The Farmer and his Orchard, John Odum.

Afternoon, 1:00 p. m.

Wheat Raising in Saline County, Dr. L. N. Parish; Management of Bees, F. M. Atwood, address, The Work and Mission of the Farmers' Institute, G. A. Willmarth, Seneca, Illinois, President of State Institute; Farmer's Reading Matter, D. M. Butler, Raleigh, Ill.

Wednesday evening, educational session, 7:00 p. m.

Educated American Citizenship a Necessity, L. E. York, Superintendent of Public Schools; address, Agricultural Education, Prof. Eugene Davenport, Dean of the College of Agriculture, State University, Champaign.

Thursday, Nov. 9, 9:00 a. m.

What kinds of Poultry pay on the Farm, B. E. Edwards, Galatia, Ill.; Feeding and Marketing Hogs, Z. W. Young; Marketing Crops on Foot vs. Marketing Grain, Hon. A. K. Vickers, Vienna, Ill.; The Stock Pea, its worth as a crop and the best method of Management, John J. Parish; Farm Dairying, L. F. Wisner, Eldorado, Ill.

Afternoon, 1:00 p. m.

Election of officers and organization; Insects Injurious to the Orchard, Prof. G. H. French, Carbondale, Ill.; Stock feeding from the Standpoint of Fertility, Prof. E. Davenport; Insects Injurious to grain, Prof. French.

Officers elected for the ensuing year—President, John J. Parish, Harrisburg; Secretary, Z. W. Young, Francis Mills; Treasurer, Thomas E. Webber, Galatia.

Average daily attendance, 60. Cost, \$55.80.

SANGAMON COUNTY FARMERS' INSTITUTE.

The annual meeting was held in the Methodist church, Mechanicsburg, Illinois, Tuesday, Wednesday and Thursday, October 17, 18 and 19, 1899.

Officers: President, J. F. Bird, Mechanicsburg, Ill.; vice-president, B. F. Workman, Auburn, Ill.; secretary, James A. Stone, Bradfordton, Ill.; treasurer, L. H. Coleman, Springfield, Ill.

Program—Tuesday, October 17, 1899, morning session, 10 o'clock.

Music; prayer, Rev. W. H. Musgrove; address of welcome, J. F. Bird, Mechanicsburg; response, Col. Chas. F. Mills, Springfield; president's address, J. F. Bird, Mechanicsburg; report of secretary, James A. Stone, Bradfordton; report of treasurer, L. H. Coleman, Springfield; music; reports of delegates from various townships as to the crop and other agricultural conditions throughout the county; question box.

Afternoon session, 1:30 o'clock—woman's session.

Mrs. E. M. Coffman, President Sangamon County Domestic Science Association in the chair; music; president's address, Mrs. E. M. Coffman; paper—Butter Making, Mrs. I. Poorman, Barclay; discussion, Mrs. Dave Fletcher, Buffalo; Mrs. John Council, Lanesville; Mrs. Charles Hall, Mechanicsburg; Mrs. Eva H. Springer, Springfield; music; paper—Poultry on the Farm, Mrs. Ed. Herrin, Buffalo; discussion, Mrs. Raper Thrall, Buffalo; Mrs. Hazlet, Rochester; paper—Home Making on the Farm, Mrs. Charles Ross, Breckenridge; discussion, Mrs. Will Hall, Buffalo; Mrs. E. B. Miller, Williamsville; paper—Organization and Work of Domestic Science Clubs, Mrs. H. M. Dunlap, Savoy, Ill.; discussion.

Evening session, 7:30 o'clock—Literary and musical entertainment by the young people of Mechanicsburg and vicinity.

Organ solo, Mrs. Ives; address—Man on the Farm, Prof. Harny; music, male quartette; reading, Harry DeFrates; vocal solo, Miss Marie Poston; reading, Miss Nellie Waters; piano duet, Grace Bullard and Ethel Thompson; recitation, Mable Burcham; vocal solo, Miss Julia O'Connor; reading, Miss Lena Freeto; vocal solo, Miss Fannie Campbell; paper, Miss Clara Bullard; vocal solo, Miss Eva Cross; recitation, Ethel Coffman; piano solo, Miss Nellie Alvey; reading, Miss Ethel Johnson.

Wednesday, October 18, 1899, morning session, 9:00 o'clock—Live stock session.

Music; Prayer, Rev. Havner; address—Breeding Improved Live Stock, Prof. W. J. Kennedy, State Agricultural College, Champaign; discussion; paper—Feeding Beef Cattle, W. S. Bullard, Mechanicsburg; discussion, George R. Ross, Mechanicsburg; J. Milton Jones, Williamsville; E. D. Boynton, Pleasant Plains; J. H. Pickrell, Springfield; paper—Breeding and Feeding Hogs, Henry C. Garvey; discussion, J. W. Coffman, J. Dan Walters, Mechanicsburg; John Juneman, Barclay; paper—Breeding and Feeding Sheep, J. A. Stone, Bradfordton; discussion, Jerome A. Leland, Springfield; J. B. Hunter, Sr., Buffalo; question box.

Afternoon session, 1:30 o'clock—Horticultural session.

Music; address—Care of Orchards, Prof. J. C. Blair, State Agricultural College, Champaign; discussion, Andrew Alson, Riddle Hill; Joseph Pierson, J. B. Stuve, Springfield; J. W. Jones, Lincoln; paper—Small Fruits on the Farm, Chas. O. Ross, Breckenridge; discussion, Henry Sprinkle and Charlis Burchman, Mechanicsburg; paper—Growing Fruit for Market, John Upton, Springfield; discussion, N. Lobdell, Rochester; W. J. Spaulding, Springfield; paper—The Farmers' Garden, J. W. Cogdall, Springfield; discussion, B. F. Workman, Auburn; R. M. Johnson, O. H. Fullenwider, Mechanicsburg; question box.

Evening session, 7:30 o'clock—Educational session.

Music; address—Education of Farmers' Boys, Prof. W. J. Kennedy, State Agricultural College, Champaign; music; address—Education of Farmers' Girls, Mrs. H. M. Dunlap, Savoy; music; address—Our State Agricultural College, Prof. J. C. Blair, Champaign; question box.

Thursday, October 19, 1899, morning session, 9:00 o'clock.

Music; prayer; paper—Care of Meadows and Pastures, Hon. J. F. Foster, Elkhart; discussion; paper—Rotation of Crops, A. B. Hostetter, Springfield; discussion; paper—Farmers' Relation to the State Fair, Dr. A. L. Converse, Springfield.

Afternoon session, 1:30 o'clock.

Music; paper—The Public Highways, L. H. Coleman, Springfield; discussion; paper—Rural Electric Railways, P. H. Kiser, Mechanicsburg; discussion; paper—The Board of Supervisors and the Farming Industries of the County, J. O. Joy, Loami; discussion; paper—Sugar Beet Cultivation in Sangamon County, J. F. Miller, Springfield;

Afternoon session, 1:30 o'clock—Ladies' Session.

This overflow meeting was held in the Sunday School room of the Methodist church, and was devoted to the reading of papers and discussion of topics of especial interest to the wife, mother and daughter, Mrs. E. B. Miller, of Williamsville presiding.

Paper—Sanitation of the Home, Mrs. H. B. Shumway, Springfield; discussion; paper—Surroundings of the Farm Home, Mrs. Henry Garvey, Buffalo; discussion; paper—The Architecture of the Farm Home, Mrs. D. C. Herrin, Lanesville; discussion; paper—Furnishing the Farm Home, Mrs. J. F. Prather, Williamsville; discussion; paper—The Table; Its Furnishings, Food, Fellowship, Etc., Mrs. E. A. Hall, Springfield; discussion; paper—Cookery on the Farm, Mrs. E. M. Coffman, Mechanicsburg; discussion; paper—Home Management on the Farm, Mrs. David A. Brown, Springfield.

Officers elected for the ensuing year: President, B. F. Workman, Auburn; secretary, James A. Stone, Bradfordton; treasurer, L. H. Coleman, Springfield.

Average daily attendance, 300. Cost, \$100.08. Had an extensive exhibit of farm products and pantry stores, baby show and plowing matches.

SCHUYLER COUNTY FARMERS' INSTITUTE.

The annual meeting was held at Rushville, Ill., Thursday and Friday, October 12 and 13, 1899.

Officers—President, Charles M. Doyle, Rushville; Secretary, John H. Boice, Rushville; Treasurer, M. W. Geer, Rushville.

Program—First day, October 12. Morning session, 10 o'clock.

Music; invocation, Elder Malvan, Rushville; opening address, Hon. M. W. Greer, Rushville; receiving and arranging exhibits; all exhibits must be in by 12 o'clock Thursday, October 12th.

Afternoon session, 1:30 o'clock.

Music; recitation, Florence Hare, Rushville; address, The Oat Crop, Its Value, and How Best to Raise, Hon. James A. Teel, Rushville; address, Prevention of Smut in Oats, Prof. P. G. Holden, Urbana; discussion; music; address, M. E. Cooper, Huntsville; address, Corn and Its Culture, Prof. P. G. Holden, Urbana; recitation, Master Will Johnston, Rushville.

Evening session, 7:30 o'clock.

Music; recitation, Miss Ernie Richards, Rushville; address, The Farm as a Means of Early Training, J. E. Wyand, Rushville; address, The Hog as a Factor in Civilization, W. M. Green, Rushville.

Morning session, 9 o'clock.

Music; address, How I Manage My Bees, J. W. Robinson, Center; discussion; address, Should Exhibits at County Fairs be Limited to the County? J. W. Whitson, Rushville; address, Horticulture, L. N. Beal, Mt. Vernon; address, Should Agriculture and Horticulture be Taught in Our Schools? Superintendent of Schools, L. J. McCreery, Rushville.

Afternoon session, 1:30 o'clock.

Music; address, The Farmer as an Experimenter, L. F. King, Huntsville; recitation, Miss Addie Foot, Rushville; address, Cattle and Stock Raising for Illinois, A. P. Grout, Winchester; address, Education of Farmers' Boys and Girls, Mrs. Sarah M. Beal, Mt. Vernon.

Evening session, 7:30 o'clock.

Music; recitation, Miss Katy Ritchey, Rushville; address, Miss Emma Lovejoy, Princeton.

Officers elected for the ensuing year: President, Charles M. Doyle, Rushville; Secretary, J. H. Boice, Rushville; Treasurer, J. W. Whitson, Rushville.

Average daily attendance, 700. Cost of Institute, \$71.82.

Had exhibits of farm and culinary products.

SCOTT COUNTY FARMERS' INSTITUTE.

The annual meeting was held at court house, Winchester, Ill., Tuesday and Wednesday, December 12 and 13, 1899.

Officers: President, Eli McLaughlin, Winchester; secretary, George R. McLaughlin, Winchester; treasurer, John W. Taylor, Winchester.

Program—Tuesday, December 12, morning session, 10 a. m.

Invocation, Rev. W. F. Gilmore, Winchester; address of welcome, Hon. Henry Miner, Winchester; response, President Eli McLaughlin, Winchester; treasurer's report, John W. Taylor, Winchester; Rotation of Crops, N. R. Smithson, Point Pleasant; discussion.

Afternoon session, 1 p. m.

Mutual Farm Insurance, Col. Chas. F. Mills, director 17th district, Springfield; discussion; How to Grow an Apple Orchard, Hon. H. M. Dunlap, president Illinois State Horticultural Society, Savoy; discussion; Breeding and Management of Swine, Chas. A. Rowe, Jacksonville; discussion.

Evening session, 7 p. m.

Music; recitation, Gladys Gibbs, Point Pleasant; music; recitation, Miss Margaret Watt, Winchester; music; recitation, Miss Bertha Watt, Winchester; Organization and Work of Domestic Science Clubs, Mrs. H. M. Dunlap, Savoy.

Wednesday, December 13—Morning session, 10 a. m.

Poultry Profits, T. J. Priest, Winchester; Restoring soil fertility, E. A. Riehl, Alton; Small Fruit Culture, Hon. H. M. Dunlap, Savoy; Sweet Potato Culture, E. A. Riehl, Alton.

Afternoon Session, 1 p. m.

Type and Quality in Farm Stock (Illustrated), A. P. Grout, Winchester; Losses from Inferior Live Stock and How to Prevent Them, Prof. E. Davenport, Dean Illinois Agricultural College, Champaign; Horse Breeding, George Williams, Athens; election of officers.

Evening session, 7 p. m.

Music; Better Methods in Our Home, Mrs. H. M. Dunlap, Savoy; music; Agricultural Education, Prof. E. Davenport, Champaign; music.

Officers elected for ensuing year: President, Henry Miner, Winchester; secretary, Geo. R. McLaughlin, Winchester; treasurer, J. W. Taylor, Winchester.

Average daily attendance, 150; cost, \$76.84.

SHELBY COUNTY FARMERS' INSTITUTE.

Two Institutes were held in Shelby county during the past year at Shelbyville on October 17, 18, and 19, 1899 and February 27 and 28, 1900.

Officers—President, W. E. Killam, Tower Hill; Secretary, F. Christman, Shelbyville; Acting Secretary, S. B. Carr, Shelbyville.

Program, Oct. 17, 1899, 1:30.

Music; Corn Culture, O. J. Avey; discussion; Education of Farm Children, Mrs. Arthur Pierce.

Evening session.

Music, recitations and address; report of Cooking School at Springfield, Miss Hilda Penwell.

Oct. 18, 10:00 a. m. Live Stock Session.

Music; prayer, W. M. Groves; address, Rearing and Feeding Beef Cattle by J. G. Imboden, Decatur; Breeding, Care and Marketing Horses, led by Dr. Newby.

1:30 p. m.

Farmers' Institutes, E. W. Burroughs, Sheep Husbandry; music: The Hog, led by Jno. Swengel, Jas. F. Kull, P. A. Mauts; discussion; Fruit Culture, Findlay Behymer, C. M. Sargeant and G. W. Grisso.

Evening session. Educational.

Music: Agricultural Education, G. A. Willmarth.

October 19, 10:00 a. m.

Prayer; Good Roads, C. H. Van Vleck; Duties of Highway Commissioners and Rights of Land Owners Along Public Roads, Judge Thornton.

1:30 p. m.

Music; Sanitary Condition of the Farm Home, Dr. W. J. Eddy; discussion; Cow Peas as a Crop and Fertilizer, by Dr. J. E. Burrill, Urbana, Ill.

February 27, 10:00 a. m.

Opening exercises; Remarks of County President, W. E. Killam; Dairying for Profit, L. A. Spies, St. Jacob, Ill.

Noon, 1:30 p. m.

Paper, How to Organize a Domestic Science Club, Mrs. W. H. Craig; Demonstration of a Hygienic Breakfast, Miss Anna Robinson, Edwardsville, Ill.; paper, Nutrition, Mrs. Ed Tackett; paper, Profession of Housekeeping, Mrs. D. Simmons.

Evening session, 7:30 p. m.

Music; topic, Experimental Farming, G. D. Chaffee; music; recitation, Winfred Douthit; paper, Prof. R. J. Roberts.

February 28, 10:00 a. m.

Cow Peas, R. C. Morrison, Olney, Ill.; Anthrax in Cattle, Dr. Myers; Mistakes and Leaks on the Farm, S. C. Wagoner.

Officers elected for the ensuing year—President, W. E. Killam, Tower Hill; Secretary, F. Christman, Shelbyville; Treasurer, J. W. Middlesworth, Shelbyville.

Average daily attendance, 100. Cost of first meeting, \$35.29. Cost of second meeting, \$50.71.



W. E. Killam, Tower Hill.

ST CLAIR COUNTY FARMERS' INSTITUTE.

The annual meeting was held in Liederkrans Hall, Belleville, Ill., Wednesday and Thursday, November 22 and 23, 1899.

Officers—President, Hon. Joseph E. Miller, Belleville; Secretary, Laura Patterson, Belleville; Treasurer, George Daab, Smithton.

Program—Wednesday, November 22. Morning session, 10 o'clock.

Music; Hog Breeding and Feeding, G. H. Helms, Belleville; discussion; question box.

Afternoon session, 1 o'clock.

Paper, G. R. Tate, Belleville; discussion; Horticulture in Southern Illinois, L. T. Dintleman, Belleville; discussion; Home Management, Mrs. Lizzie Killian, Belleville; discussion; Support of the Farm, J. B. Poirot, Belleville; question box.

Evening session, 7:30 o'clock.

Piano solo, Miss Emma Best, Freeburg; recitation, Ray Holcomb, Freeburg; music; recitation; Home Life on the Farm, Miss Daisy Whiteside, Belleville; Better Methods in Our Homes, Mrs. H. M. Dunlap, Savoy.

Thursday, November 23. Morning session, 10 o'clock.

Music; Keeping a Flock of Breeding Ewes at a Profit, H. D. Hughes, Antioch; discussion; Rotation of Crops, J. T. Nixon, Marissa; discussion; Option Dealing, Fred Helms, Belleville; discussion; question box.

Afternoon session, 1 o'clock.

Music; transaction of business; The Silo and Its Value to the Dairyman, W. J. Frasier, Champaign; discussion; Cow Peas, A. H. Stanton, Richview; discussion; Concentration of Schools, E. A. Miller, Belleville; discussion.

Officers elected for the ensuing year: President, Joseph E. Miller, Belleville; Secretary, Laura Patterson, Belleville; Treasurer, George Daab, Smithton.

Average daily attendance, 250. Cost, \$98.15.

STARK COUNTY FARMERS' INSTITUTE.

The annual meeting was held at Bradford, Illinois, in Deyo Bros. and Ceole's hall, December 13, 14 and 15, 1899.

Officers: President, J. N. Conger, Wyoming; secretary-treasurer, Wilbur P. Snare, Toulon.



J. N. Conger, Wyoming.

Officers elected for the ensuing year: President, M. Bevier, Bradford; secretary, Wilbur P. Snare, Toulon; treasurer, Wilbur P. Snare, Toulon.

Average daily attendance, 250; cost, \$98.91.

Had an exhibit of farm, dairy and culinary products.

Program — Wednesday, December 13, morning session, 10 o'clock.

Arranging exhibits.

Afternoon session, 1 o'clock.

Miscellaneous business and question box.

Thursday, December 14—Morning session, 10 o'clock.

Address, Hon. Cyrus Bocock, Bradford; The Work and Mission of Farmers' Institutes, Hon. G. A. Willmarth, Seneca; Broom Corn, M. Bevier, Bradford.

Afternoon session, 1 o'clock.

Butter Making, J. W. Rist, Toulon; Bread Making, Mrs. J. Rist, Toulon; Points on Corn Culture, Prof. P. G. Holden, Urbana; Clover, Its Value on the Farm, Clayton C. Pervier, Sheffield.

Evening session, 7:30 o'clock.

Agricultural Education, Hon. G. A. Willmarth, Seneca; Illinois College of Agriculture, Prof. P. G. Holden, Urbana; music and recitations.

Friday, December 15—Morning session, 10 o'clock.

Surface Cultivation, J. M. Liggett, Bradford; House Plants, George Bevier, Bradford; Prevention of Smut in Oats, Prof. P. G. Holden, Urbana; The Farmers' Home, J. C. Atherton, West Jersey.

Afternoon session, 1 o'clock.

Cheese Making from the Farmers' Standpoint, A. R. Tomlinson, Neponset; Hygiene for the Farmers' Home, Dr. Viola Shaw, Bradford; Education of the Farmer, C. C. Pervier, Sheffield; Home Topics, Mrs. M. L. Gerard, Bradford; question box.

STEPHENSON COUNTY FARMERS' INSTITUTE.

The annual meeting was held at Freeport January 17 and 18, 1900.

Officers—President, S. M. Mulnix, Damascus; Secretary, J. A. Phillips, Damascus; Treasurer, F. B. Walker, Dakota.

Program—Wednesday, January 17. Morning, 10 o'clock.

Opening song; prayer, H. F. Gilbert, Damascus; President's address, S. M. Mulnix, Damascus; music, Frank Rosenstiel and son, Harlem; appointment of committees; Shepp, W. C. Swansey, Freeport; discussion; The General Purpose Horse, W. S. Fehr, Dakota; discussion; music; adjournment.

Woman's session in afternoon, Mrs. Geo. W. Shippy, President Stephenson County Domestic Science Association, in the chair.

Piano solo, Miss Clara Hunt, Ridott; president's address, Mrs. G. W. Shippy, McConnell; The Shovel and the Spoon, L. M. Swansey, Ridott; The Chemistry of Cooking, Mrs. W. B. Lloyd, Glen Ellyn, Ill.; recitation, Mrs. Frank Askey, Ridott; The Relation of Parent to the School, Mrs. H. E. Confer, McConnell; Kitchen Conveniences, Miss Ada Blakeway, Ridott; recitation, Miss Agnes Hunt, Ridott.

Evening.

Music, Gibler's Orchestra; address, T. J. Van Matre, Fayette, Wis.; recitation, Nobody's Child, Hazel Shippy, McConnell; The Actual and Possible Relations of Agriculture to Social Life, Prof. J. A. Keith, DeKalb; recitation, Miss Blanche Knipschild, Freeport; music.

January 18. Morning, 10 o'clock.

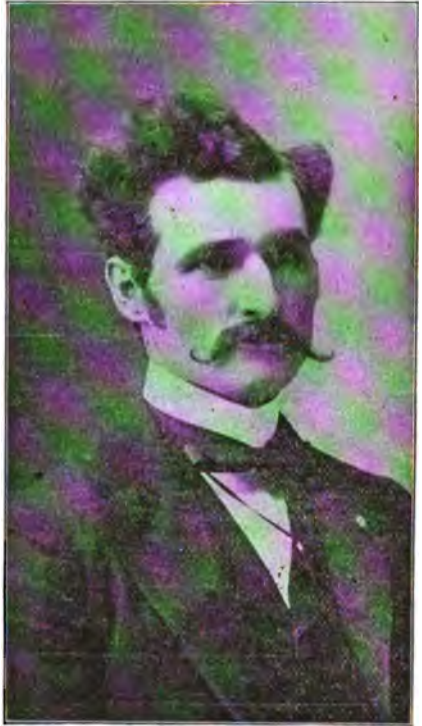
Opening chorus; Agricultural Education, G. A. Willmarth, President Illinois State Institute, Seneca; A Few of My Mistakes, Miller Purvis, Lake Forest, Ill.; music, Y. M. C. A. Quartette, Freeport; The Farmer's Duty and Worth as a Citizen, Wm. Rigney, Cockrell; music, Y. M. C. A. Quartette, Freeport; report of committee and election of officers.

Afternoon, 1:30 o'clock.

Opening song; A Farmer's Experience in the Legislature, Hon. H. F. Aspinwall, Freeport; Hom-Making, Mrs. W. B. Lloyd, Glen Ellyn, Ill.; music, Y. M. C. A. Quartette, Freeport; Profitable Pork Production, E. J. Van Matre, Fayette, Wis.; Dairying, W. R. Hostetter, Mt. Carroll; Farm Dairy, Frank Shephard, Freeport; question box; closing song; adjournment.

Officers elected for the ensuing year: President, W. C. Swansey, Freeport; Secretary, J. A. Phillips, Damascus; Treasurer, F. B. Walker, Dakota.

Average daily attendance, 350. Cost, \$128.52.



S. M. Mulnix, Damascus.

TAZEWELL COUNTY FARMERS' INSTITUTE.

The annual meeting was held at the Minier Opera House, Minier, Ill., Wednesday, Thursday and Friday, December, 13, 14 and 15, 1899.

Officers: President, Ralph Allen, Delavan; vice-president, J. F. Beal, Minier; secretary, R. C. Criffield, Minier; treasurer, John Betzeberger, Boynton.

Program—Wednesday, December 13, 10 o'clock.

Call to order; prayer; song, "America," by the audience; address of welcome, S. S. Tanner, Minier; response, Ralph Allen, president, Delavan; music; address, What the Farmers' Institute is Doing for the Farmer, A. B. Hostetter, State Secretary and Superintendent, Springfield.

Afternoon, 1:15 p. m.

Music; topic, Cattle Raising and Feeding, L. H. Kerrick, Bloomington; discussion; topic, Breeding and Management of Hogs, Hon. G. A. Willmarth, State President Seneca; discussion; topic, My Experience with Sheep, W. H. B. McCormick, Hopedale; discussion, led by W. H. Burt, Armington and D. W. Puterbaugh, Mackinaw.

Evening session, 7:30 p. m.

Music, piano duet, Mrs. C. H. Buehrig and Miss Katie Elliff; recitation, "Heart's Ease," Miss Alma Briggs; Fruit for the Farm, J. W. Griesomer, Hopedale; recitation, Clive DeLong, Armstrong; music, violin and piano, Paul Nagel and Miss Ottella Buehrig; address, Agricultural Education, Hon. G. A. Willmarth, Seneca; music, piano duet, Mrs. C. H. Buehrig and Miss Katie Elliff.

Thursday, December 14—Morning session, 9:30 a. m.

Music; address, Corn Culture, A. D. Shamel, University of Illinois, Champaign; questions and general discussion; music; address, A Farm and Its Management, Hon. I. S. Raymond, Sidney; discussion, led by W. M. Shreve and H. J. Eisenberger; address, Rev. Walter H. North, Deer Creek.

Afternoon session, 1:15 p. m. Ladies' session, Miss Lina Brennemann, presiding.

Music, Miss Emma and Carl Kuhfuss; recitations, Oma and Blanch Nealy and Heila Johnson; song, "The Merry Plow Boys," by three little girls; recitation, Adelia Kunce; reading, Keeping Cool, Miss Emma Imig; recitation, Home Again With Me, Miss Fleta Davis, Tazewell; music; recitation, "The Old Pioneers," Mrs. W. B. McCormick; reading Nervous Prostration Among Country Women, Miss Leta Davis; music, solo, Mrs. W. H. North, Deer Creek; paper, Poultry Raising, Miss Nina Giffen, Delavan; paper, Social and Intellectual Culture on the Farm, Miss Gertrude Rallsback, Tazewell; music, Miss Emma and Carl Kuhfuss.

Evening session, 7:30 p. m.

Music, violin and piano, Paul Nagel and Mrs. C. H. Buehrig; address, Who is the Farmer? Geo. N. Bradley, principle Minter school; music, violin and piano, Paul Nagel and Mrs. C. H. Buehrig; address, Fellowship Among Farmers, James R. Miller, Grand Secretary I. O. O. F., Springfield; music, piano duet.

Friday, December 15—Morning session, 9:30 o'clock.

Topic, Pasture, W. R. Perry, Stanford; discussion, led by Arch Robinson, Tremont; My Experience in Sugar Beet Raising, Ross Bartholomew, Manitowish; discussion, led by Clarence Wilson, Mackinaw, and A. B. Lee, Tazewell; music; address, Farmers in the Legislature, Hon. W. A. Moore, Morton; election and business.

Afternoon session, 1:15 p. m.

Music, violin and piano, Paul Nagel and Miss Ottella Buehrig; recitation, "Counting Eggs," Miss Cora Starkey; symposium, Weeds—1. Road Weeds, Ralph Allen; 2. Thistles, Val Graff; 3. Button Weeds, Pie Print, Thos Viemont; 4. Running Vines, O. J. Brennehan; 5. Cockleburrs, J. F. Beal; recitation, "So Was I," Miss Alma Briggs; music, violin and piano; How to Better Our Roads, general discussion, in which highway commissioners are invited and expected to participate; music; adjournment.

Officers elected for the ensuing year: President, Ralph Allen, Delavan; secretary, R. C. Cribfield, Minier; treasurer, John Betzelberger, Boynton.

Average daily attendance, 400; cost of Institute, \$74.73. Had an exhibit of farm, dairy and culinary products.

UNION COUNTY FARMERS' INSTITUTE.

The annual meeting was held at Court House, Jonesboro, Ill., October 25 and 26, 1899.

Officers—President, A. Ney Sessions, Anna; Secretary, Geo. Barringer, Jonesboro; Treasurer, J. B. Jackson, Jonesboro.

Program, Wednesday, October 25. Morning session, 10:00 o'clock.

Music; invocation, Rev. T. Earnhart, Jonesboro; address of welcome, Mayor T. J. Watkins, Jonesboro; response, President, A. Ney Sessions, Anna; Our Poultry Interests, Blain Fitch, Cobden; general discussion; Cow Peas as Feed and Fertilizer, J. W. Stanton, Richview; general discussion; election of officers.

Afternoon session, 1:30 o'clock.

Music; Fruit Culture, Theodore Goodrich, Cobden, Willis Cauble, Alto, Pass; general discussion; Losses from Inferior Live Stock, how to prevent, Prof. E. Davenport, Champaign; general discussion; Public Roads, Hon. D. W. Karraker, Jonesboro; general discussion.

Thursday, October 26. Morning session, 10:00 o'clock.

Music; invocation, Rev. Silas Green, Jonesboro; Truck Farming, T. P. Sifferd, Anna, E. R. Jinnette, Anna; general discussion; Agricultural Education, Prof. E. Davenport, Champaign, A. M. DuBois, Cobden; general discussion; music.

Afternoon session, 1:30 o'clock.

Music; Corn and Wheat Culture, J. W. Stanton, Richview; general discussion; What Can a Woman Do on a Farm? Ladies discussion; Feeding Cattle and Hogs, Ed. Walton, Anna, L. J. Hess, Anna, H. L. Otrich, Dongola.

Officers elected for the ensuing year—President, A. Ney Sessions, Anna; Secretary, George Barringer, Jonesboro; Treasurer, D. W. Karraker, Jonesboro.

Average daily attendance, 25. Cost \$26.75.

VERMILION COUNTY FARMERS' INSTITUTE.

The annual meeting was held at Ridge Farm, Ill., February 8 and 9, 1900.

Officers—G. W. Hobson, President, Danville; Jas. A. Cunningham, Vice-President, Danville; D. M. Fowler, Treasurer, Danville; J. H. Oakwood, Secretary, Danville.

Program—Thursday, February 8. Morning session, 9 a. m.

Opening prayer; address, President Geo. W. Hobson; response, W. M. Binea, Ridge Farm; Corn Culture, O. P. Stufflebeam, Rossville; Feeding and Marketing Cattle, J. A. Cunningham, Hoopeston.

Afternoon session, 1:30 p. m.

Music, Glee Club; Swine Husbandry, G. A. Willmarth, Seneca; A. G. Woodbury, Danville; Poultry Raising, Mrs. Geo. M. Hanley, Hoopeston; Domestic Science, Miss Dora Jones, Catlin; Mrs. J. J. Southworth, Allerton.

Evening session, 7 p. m.

Clover Culture, H. D. Watson, Clinton;

Friday, February 9. Morning session, 9 a. m.

Farm Drainage, Thos. S. McClanahan, Monmouth; Horticulture, Orley Nesbit, Catlin; election of officers.

Afternoon session, 1:30 p. m.

Dairying, Miles Waterman, Ridge Farm; Stock Raising by Farm Tenant, George W. Hobson, Collison; W. G. Herron, Allerton; Sheep Raising, U. Grant Fowler, Hope; Geo. Allen, Allerton.

Evening session, 7 p. m.

Music, Glee Club; Good Roads, Thos. S. McClanahan, Monmouth; Soja Beans and Cow Peas, Robert C. Morris, Olney.

Each topic to be discussed in five-minute speeches.

Officers elected for the ensuing year: President, Geo. W. Hobson, Homer; Secretary, J. H. Oakwood, Danville; Treasurer, David M. Fowler, Danville.

Average daily attendance, 350. Cost, \$80.75.



Geo. W. Hobson, Collison.

WABASH COUNTY FARMERS' INSTITUTE.

The annual meeting was held at the Court House, Mt. Carmel, Ill., Thursday, Friday and Saturday, October 26, 27 and 28, 1899.

Officers—President, O. H. Wood, Friendsville; Secretary, Paul Chipman, Mt. Carmel, Treasurer, E. B. Keniepp, Mt. Carmel.



O. H. Wood, Friendsville.

ladies quartette; The Eight Year Public School Course and its Relation to Agriculture, Miss Minnie King, Fairfield; discussion, Prof. W. S. Booth, Mt. Carmel; reports of committees; election of officers.

Officers elected for the ensuing year—President, O. H. Wood, Friendsville; Secretary, J. E. Sells, Sugar Creek; Treasurer, Isaac W. Jaques, Mt. Carmel.

Average daily attendance, 100. Cost, \$95.90. Had an exhibit of farm products.

Program, Thursday, October 26. Morning session, 10:00 o'clock.

Arranging Exhibits, Hallock Shearer, Supt., Mt. Carmel.

Afternoon session, 1:30 o'clock.

Invocation, Rev. J. F. Knowles, Mt. Carmel; question box opened; Climatic Influence on Plants, Dr. J. Schneck, Mt. Carmel; discussion, J. Zimmerman, J. E. Sells.

Evening session, 7:00 o'clock.

Music, male quartette; The Farmer as Viewed by the City Man, Maj. Sterns, Mt. Carmel; discussion, J. M. Mitchell, Thos. Stone.

Friday, October 27. Morning session, 10:00 o'clock.

Diseases and Care of Farm Animals, Dr. D. McIntosh, Urbana; discussion; The Clover Plant and Its Enemies, Dr. S. A. Forbes, Urbana; discussion.

Afternoon session, 1:30 o'clock.

Invocation, Rev. F. L. West, Mt. Carmel; question box opened; music, ladies' quartette; Domestic Science, Mrs. Jane Carter, Champaign; discussion, Miss Lottie Sells, Mt. Carmel; music, ladies' quartette; Wounds, and how to treat them, Dr. D. McIntosh, Urbana.

Evening session, 7:00 o'clock.

Music, male quartette; Advantages in the Short Course in Agriculture, Dr. S. A. Forbes, Urbana; music, ladies' quartette; The Cullinary Art, Mrs. Jane Carter, Champaign; music, male quartette.

Saturday, October 28. Morning session, 10:00 o'clock.

Breeding and Feeding Cattle, Hon. A. P. Grout, Winchester; discussion, S. S. Sells, W. E. Courter; Silo and Forage Crops, W. C. Davis, Fairfield.

Afternoon session, 1:30 o'clock.

Music; invocation, Rev. J. H. Waltrick, Mt. Carmel; question box opened; music, Mt. Carmel; reports of committees.

WARREN COUNTY FARMERS' INSTITUTE.

The annual meeting was held at Monmouth, February 15 and 16, 1900.

Officers—President, Eli Dixon, Roseville; Secretary, J. Ed. Miller, Monmouth; Treasurer, O. S. Barnum, Monmouth.

Program, Thursday, Feb. 15, 9:30 a. m.

Music; Wagner quartet; address of welcome; Mayor W. A. Sawyer, Monmouth; response, Hon. Eli Dixon, Roseville; The History of Two Calves, Nathan H. Cobb, Monmouth; Curing Meats for Home Consumption, Andrew L. Irvine, Monmouth; The Farmers' National Congress at Boston, Hon. Geo. W. Dean, Adams; music, Wagner quartet; adjournment.

1:15 p. m.

Music, Wagner quartet; election of officers; The Dairy Farm and Its Advantages over the Grain Farm, Euclid N. Cobb, Monmouth; discussion; Farm Homes, E. S. Fursman, El Paso, President of the Illinois Corn Growers' Association; discussion; music, Wagner quartet; Kaffir Corn, P. R. Sperry, Eleanor; recitation, Miss Ina A. Cobb, Monmouth.

Friday, Feb. 16, 9:30 a. m.

Prayer, Dr. T. H. Hanna; music; Wagoner quartet; Corn Culture, E. S. Fursman, El Paso, President Illinois Corn Growers' Association; discussion; Fruit Culture, Rev. John Rugh, Monmouth; discussion; Farm Economics, Dr. David Kinley, Champaign, Dean of the College of Literature and Arts; music, Wagner quartet; adjournment.

1:15 p. m.

Music, Wagner quartet; Poultry Talk, Euclid N. Cobb, Monmouth; discussion; Sanitation in the Home and School, Dr. A. G. Patton, Monmouth; The Relation of Home and School, Mrs. Mary E. Sykes, Monmouth co., Supt. of Schools; discussion; music; Teaching Domestic Economy, Mrs. Nellie S. Kedzie, Peoria, Principal Bradley Polytechnic Institute; resolutions; adjournment.

Officers elected for the ensuing year—President, Eli Dixon, Roseville; Secretary, Euclid N. Cobb, Monmouth; Treasurer, Thomas T. McClanahan, Monmouth.

Average daily attendance, 200. Cost of Institute, \$76.90.

WASHINGTON COUNTY FARMERS' INSTITUTE.

The annual meeting was held at Nashville, November 21 and 22, 1899.

Officers—President, J. D. Maxwell, Oakdale; Secretary, M. L. Merker, Nashville; Treasurer, John Meyer, Addieville.

Program—10 a. m.

Welcome address by Chas. Luke; prayer by Rev. McQueen; music; Rotation of Crops, discussion by J. Randall, Capt. May, A. Hineley, S. Flaxbeard and William Miller; motion to adjourn until 1:30; carried.

Afternoon session, 1:30 p. m.

How and When to Spray for Fruit, Hon. H. M. Dunlap, of Savoy; Domestic Science, Mrs. Dunlap; Restoring Soil Fertility, Morand Smith, of Nashville; Dairying, Cyrus Sawyer, of Beaucoup; discussion by Wm. Kugler, Okawville; John Meyer, Addieville; Chas. Moore, Nashville; Chas. White, Beaucoup; adjournment until evening session.

Evening session, 7 p. m.

Music by orchestra; Domestic Science, Mrs. Dunlap; music by orchestra; address by Paul Carter, Nashville; adjourned.

November 22, afternoon session, 1:30.

Ladies' duet; report of committee on resolutions; motion made that report of committee be accepted; carried; The Farmer as a Business Man, Frank Moore; Keeping a Flock of Breeding Ewes at a Profit, H. D. Hughes, of Antioch; Horticulture and Fruits for the Farm, E. H. Brown, of Ashley; discussion by J. Randall, Joe McConaghie, Wm. Kugler and J. W. Stanton; adjourned.

Evening session, 7 p. m.

Meeting called to order by Vice-President Chesney; music by orchestra; song by female quartette; The Country School, Prof. Gibbs, of Okawville; recitation by Mabel Goyer; music by the orchestra; The Work and Mission of Farmers' Institutes, J. W. Stanton, of Richview; motion to adjourn.

Officers elected for the ensuing year: President, J. D. Maxwell, Oakdale; Secretary, M. L. Merker, Nashville; Treasurer, John Meyer, Addieville.

Average daily attendance, 200. Cost, \$75.50.



J. D. Maxwell, President, Oakdale.

WAYNE COUNTY FARMERS' INSTITUTE.

The annual meeting was held at Jeffersonville, Ill., Town Hall, October 23 and 24, 1899.

Officers—President, E. A. Rankin, Fairfield; secretary, J. R. Clark, Jeffersonville; treasurer, A. R. McDaniel, Jeffersonville.



E. A. Rankin, President.

Program.—Monday, October 23, morning session, 10 o'clock.

Arrangement of exhibits and the appointment of committees.

Afternoon session, 1 o'clock.

Horses in Southern Illinois, J. B. Landrigan, Albion, Ill.; discussion; Domestic Science, Mrs. L. N. Beal, Mt. Vernon, Ill.; discussion.

Evening session, 7 o'clock.

Music by String Band; Educators as Farmers, J. L. Young, county superintendent of schools, Fairfield, Ill.; Music by quartette; Practical Application of Physics, as Taught in Public Schools, Prof. A. E. Gilpin, principal of Fairfield High School, Fairfield, Ill.; recitation, Miss Daisy Rider, Fairfield, Ill.; music by quartette.

Tuesday, October 24, morning session, 10 o'clock.

Orchard Culture, H. A. Aldrich, Neoga, Ill., vice-president of State Horticultural Society; discussion; music by quartette; address, L. N. Beal, Mt. Vernon, director of 20th District and vice-president of State Institute.

Afternoon session, 1 o'clock.

Address, Mrs. Joseph Carter, president of Illinois Association of Domestic Science, Champaign, Ill.; Cattle Raising and Feeding in Southern Illinois, A. P. Grout, treasurer of State Institute, Winchester, Ill.; discussion; music by Quartette.

Evening session, 7 o'clock.

Music by string band; address, F. G. Bull, principal of Jeffersonville High School, Jeffersonville, Ill.; music by quartette; recitation by school pupils; address, Domestic Science, Mrs. Joseph Carter, Champaign, Ill.; solo, Mrs. Lou Roberts, Fairfield, Ill.; essay by Miss Haley Churchwell, Jeffersonville, Ill. recitation, Wm. Irving, Jeffersonville, Ill.; song by quartette; music by string band.

Officers elected for the ensuing year: President, W. C. Davis, Fairfield; secretary, T. M. Hobart, Jeffersonville; treasurer, A. R. McDaniel, Jeffersonville.

Average daily attendance, 500; cost, \$25.00. Had an exhibit of farm products.

WHITE COUNTY FARMERS' INSTITUTE.

The annual meeting was held at Carmi, December 12 and 13, 1899.

Officers—President, William Whiting, Phillipstown; secretary, F. E. Pomeroy, Carmi; treasurer, F. E. Pomeroy, Carmi.

Program—December 12, morning session, 9:30.

Opening prayer, Rev. D. Manly; address of president; appointment of committees; election of officers for 1900.

Afternoon session, 1:30.

Improved Public Highways, Robt. Mitchel, Princeton, Ind.; discussion, John Stokes; Practical Farming, Ezekiel Hunsinger.

Evening session, 7:00.

Music and readings: "How to make two stalks of corn grow where only one grew before," Dr. Robt. Morris, Olney, Ill.

Wednesday morning session, 9:30.

Opening prayer, Rev. J. A. Taylor; Local Taxation, Wm. Hoskins; discussion, R. S. Holcomb; The Good there is in the Hog, Eli Robinson; Orchards, L. N. Beal, Mt. Vernon.

Afternoon session, 1:30.

Insects of Damage to the Farm, Prof. Geo. H. French, Carbondale, Ill.

Officers elected for the ensuing year: President, Ezekiel Hunsinger, Burnt Prairie; secretary and treasurer, Daniel Berry, Carmi.

Average daily attendance, 300. Cost, \$75.00.

WHITESIDE COUNTY FARMERS' INSTITUTE.

Whiteside county held two Institutes during the past year, one May 24, 1899, at Coleta; and the annual meeting at Morrison December 5 and 6, 1899.

Officers: President, A. D. Stanley, Coleta; secretary, J. J. Johnson, Morrison; treasurer, C. H. Mitchell, Round Grove.

Program May 24, 1899, 10. a. m.

Prayer, Rev. S. C. Bennett; address of welcome, Rev. C. H. McKim; response, Chas. A. Wetherbee of the town of Sterling; minutes of last meeting; The Proper Rotation of Crops, Chas. W. Mitchell, Mt. Pleasant, and J. C. Crom, Geneseo; time allotted to each, 10 minutes; vocal solo, Mrs. S. C. Bennett; the forenoon session will close at 11:45.

Afternoon session, 1:30 o'clock.

Duet, Misses Leona and Eva Woods; How Can We Make Farm Work and the Farm Home More Attractive? Harmon E. Burr, Union Grove; Mrs. Lemuel Gerdes and Mrs. Levi Thorpe, Geneseo; ten minutes each; instrumental solo, Mrs. Lewis Pough; The Best Methods of Potato Culture, R. C. Williams, Jordan; Ury Miners, Geneseo, and R. Stauffer, Jordan; music by pupils of Coleta school.

Evening session, 8 o'clock.

Duet, J. H. Becker and Mrs. Chas. Wink; recitation, Miss Alice Harrison; duet, Misses Lizzie Garwick and Elizabeth Ackerman; How May the Rural Schools of Whiteside County be Improved? Misses Lulu Sowles and Grace Bender; duet, Two Men of Ye Olden Time, Glenn Colcord and Charles Fraser; Should the Farmers Have Free Mail Delivery? A. N. Abbott, Ustick; R. R. Murphy, Gardenplain, and George E. Goodenough, Union Grove; ten minutes each; solo; Miss Ethel Thorpe; recitation, Mrs. James Horlacher; solo, Mrs. C. H. McKim; recitation, Lloyd Lawrence; quartet, the Misses Bender; America, sung by the Institute, J. H. Becker leading.

December 5, 1899, 10 a. m.

Music, America, sung by the audience; prayer, Rev. W. E. Leavitt of Morrison; minutes of last meeting; What Shall be Done With Our Osage Orange Fences, J. F. Egan, Union Grove.

Afternoon session, 1:30.

Music, by the Morrison High School Quartet, Misses Annie Carter, Bertha Teller, Cora Elfman and Etta Body, pianist, Miss Nellie Hazelton; recitation, Miss Nellie Forest; Teaching Domestic Economy, address by Mrs. Nellie Kedzie, principal Bradley Polytechnic Institute, Peoria, Ill.; general discussion opened by Mrs. S. Ellingham, Morrison.

Recess.

The Cow and Her Feed, Hon. Luther Mitchell, Dixon, Illinois; John Fluck, Hume; William Boyd, Morrison; music, vocal duet, Eleanor and Mamie Smith.

Evening session, 7:30.

Music, cornet solo, G. D. Webber; recitation, Miss Nettie Brearton; music, vocal solo, Miss Maud A. Robinson, pianist, W. J. Burnett; Our Rural Schools, address by President John W. Cook, of the DeKalb State Normal School; general discussion opened by Mrs. Mary Talbott, Jordan; music, vocal solo, Miss Maud A. Robinson; recitation, Wallace Lister; music, America, sung by the audience, Miss Robinson leading.



A. D. Stanley, Coleta.

Wednesday session, 9 a. m.

Music, by pupils of Miss Anna Corcoran's room, Northside school; prayer, Rev. L. T. Bush; election of officers; business matters.

Recess.

The Breeding and Management of Swine, G. A. Willmarth, Seneca, President of Illinois State Farmer's Institute: general discussion opened by S. M. Cox, Prophetstown, and H. J. Simpson, Garden Plain: music, by pupils of Miss Annie T. Aitken's room, Northside school.

Afternoon session, 1:30.

Music, by pupils of Miss Lucinda F. Sallee's room, Northside school; recitation, Happer Payne; What Fruits Shall the Farmer Raise for His Own Use and their Proper Cultivation? Hon. J. L. Hartwell, Dixon, Ill.; general discussion opened by John Byers, Albany, and R. B. Stoddard, Sterling.

Recess.

Who is Asking for Macadamized Roads in the Rural Districts? (b) Their Desirability and Probable Cost? Hon. J. H. Coolidge, Galeburg; Luman Ramsay, Rock Falls; B. F. Brooks, Portland; Frank Thomas, Tampico; closing thoughts by the President of the Institute and others; music, by the Morrison High School Quartet.

Average daily attendance, 500. Cost, \$95.

WILL COUNTY FARMERS' INSTITUTE.

The Twelfth Congressional District Farmers' Institute, F. I. Mann, Gilman, Ill., director, held under the auspices of the Will County Farmers' Institute. Meetings will be held at Joliet Theatre, Joliet, Ill., with headquarters at Hotel Munroe, Thursday, Friday and Saturday, January 11, 12 and 13, 1900.

Officers of Will County Farmers' Institute—President, James H. Alexander, Romeoville, R. D.; secretary, Milton G. Van Horn, Plainfield.

Program—Thursday, January 11. Morning session, 10 a. m.

Prayer; music, Amphion Lady Quartette; address of welcome, Hon. John B. Mount; response, Dayton Hutchinson, Jackson; music, Marley Quartette; Do the Farmers Get the Benefit They Should from the State Fair? C. E. Russell, Hoopeston, Vermillion County; Farmers' Burdens and Blessings, George Bunnnett, Caton Farm; recitation, Ruby Jane Cockle, Manhattan; Why are not Farmers' Families Better Supplied with Home Grown Fruit? George B. Smith, Lockport; The Feeding of Beef Cattle, Homer B. Grommon, Wheatland; The Power of the Farmer, W. B. McGrath, Manhattan.

Friday, January 12. Morning session, 9:30 a. m.

Prayer; music, Marley Quartette; What is the Farmers' Most Pressing Need, William Thompson, Plainfield, R. D.; What Effect Will the Spanish-American War Have on the Farming Interests, Leon Hay, Kankakee, Kankakee county; recitation, Luella Stanner, DuPage; Potato Culture, John D. Fraser, Lockport; The Prevention and Destruction of Weeds on the Highway, A. F. Lambert, Romeoville, R. D.; Actinomyces, John Latham, Goodentown.

Afternoon session. Woman's session of the Will County Farmers' Institute. President, Mrs. John Baker, Manhattan; secretary, Laura E. Alexander, Lockport. "Home is the chief school of human virtue." "A woman's worth is to be estimated by the real goodness of her heart, the greatness of her soul and the purity and sweetness of her character."

Prayer; music, Amphion Quartette; Opportunities of Women, James Patterson, Wheatland; In and Out of Housekeeping and Home-making, Mrs. Jessie L. Wals, New Lenox; recitation, Miss Maud Young, Jackson; Is Letter Writing Becoming a Lost Art? Mrs. Annie Utermire, Manhattan; Making the Most of Life, Mrs. John Van Horn, Plainfield; recitation, Miss Maggie Gallagher, Manhattan; The Art of Living with Others, Mrs. James Milne, Lockport.

Saturday, January 13. Morning session, 9:30 a. m.

Prayer; music, Marley Quartette; What is the difference in cost in putting into the barn an acre of Timothy Hay and an acre of Shredded Corn Stalks, and what is their relative value? J. E. Eichelberger, Plainfield, R. D.; Child Labor on the Farm, Lloyd C. Smith, Plainfield; recitation, Florence Thompson, Wheatland; Our Children, Miss Cora B. Holdridge, Plainfield; Clover, why we do not have better success with it, Charles McKenne, Caton Farm.

Afternoon session.

Music, Amphion Lady Quartette; awards of premiums announced; election of officers; Why Do Our Boys and Girls Not Remain on the Farm, D. B. Givler, Naperville; essay, Miss Ruland, Homer; Illinois as an Agricultural State, and its Resources as Compared with Other States, Hon. F. M. Crangle, Wataaka, Iroquois county; The Profitable Cow, and How Best to Obtain Her, Wilbur J. Fraser, University of Illinois. All questions open for discussion.

Officers elected for the ensuing year: President, J. H. Alexander, Romeoville; Secretary and Treasurer, Merton G. Van Horn, Plainfield.

Average daily attendance, 1,500. Cost of Institute, \$234.59.

Had an extensive grain, dairy and culinary exhibit, with liberal premiums.

WILLIAMSON COUNTY FARMERS' INSTITUTE.

The 22d Congressional District Farmers' Institute was held with the Williamson County Farmers' Institute, H. G. Easterly, Carbondale, director, in the Court House, Marion, Ill., November 10 and 11, 1899.

Officers of Williamson County Farmers' Institute—President, Geo. Neely, Absher; secretary, Mrs. Minnie L. Copeland, Marion; treasurer, A. M. Townsend, Marion.

Friday, November 10, 1899—Morning session, 10 o'clock.

Song; prayer, Rev. J. H. Ford, Marion; music, led by Miss Harris; address of welcome, Mayor T. J. Youngblood, Marion; remarks, President George Neely Absher; County Roads, Robert Lupfer, Cartersville, Wm. Reed, Marion, A. Luke Ralls, Marion; Poultry, Mrs. R. Hendrickson, Mrs. J. E. Hartkoff, Lake Creek; Irish Potato Culture, A. M. Townsend, Marion, Peter Watsler, Lake Creek, Mr. McGuire, Cartersville; adjournment.

Afternoon session, 1:15 o'clock.

Music; Horticulture and Fruits for the Farm, C. M. Dickson, Parrish; Jas. Barter, Attila, M. V. Felts, Lake Creek, Joshua Chamness, Chamness; Shall We Have Farm Fence?, John M. Cruse, Blairsville, Fred Becker, Lake Creek, John Grant, Marion; paper, Our Attractive Farm Homes, Miss Della Harris, Lake Creek; music; Bee Keeping, Jas. H. Coleman, Crainville, Samuel Lancaster, Marion, W. W. Grant, Marion; music; paper, Educational Side of Farm Life, Mrs. Ann Hess, Wolf Creek; address, Domestic Science, Sarah Beal, Mt. Vernon; music; adjournment.

Evening session, 7:30 o'clock.

Song, Battle Hymn of the Republic; music; recitation, Miss Bullock, Crab Orchard; address, The Country School, Hon. Alfred Bayliss, State Superintendent of Public Schools; Work and Mission of Farmers' Institute, G. A. Willmarth, President of State Institute, Seneca, Ill.

Saturday, November 11—Morning session, 9 o'clock.

Music; prayer; music; Dairy, Geo. Knobloch, B. G. Coke, Creal Springs, Minnie Hess, Wolf Creek; Live Stock, Frank Chamness, Crainville, L. Grisham, Pulley Mills; Corn Culture in Williamson County, W. T. Fowler, Lake Creek; Thos. Mitchell, Corinth; Disposition of Corn Crop, Gus. Burkholz, Crainville, Joe Hayton, Eight Mile, P. O., Carbondale, Geo. Roberts, Corinth; rest; music; paper, The Farmer's Garden, R. P. Hill, Crainville; paper, Mrs. H. M. Kicham, Fredonia, Perry Hess, Wolf Creek; adjournment.

Afternoon session, 1:15 o'clock.

Music; address, Dr. Jas. Hayton, Eight Mile, P. O., Carbondale; Agricultural Fairs, Geo. M. Roberts, Herrin, Noah Hunter, Blairsville, Mrs. R. Hendricks, Marion; paper, Dignity of Farm Labor, R. O. Clarids, Crab Orchard; rest; music; secretary's report; election of officers; adjournment.

Officers elected for the ensuing year: President, W. M. Reid, Spillerton; secretary, M. L. Copeland, Marion; treasurer, A. Townsend, Marion.

Average daily attendance, 100; cost, \$115.50. Had an exhibit of farm and culinary products.

WINNEBAGO COUNTY FARMERS' INSTITUTE.

The annual meeting was held at Mendelsahon Hall, Rockford, Tuesday and Wednesday, January 16 and 17, 1900.

Officers: President, George W. Collins, Rockford; vice president, Foster Graham, Harrison; secretary, W. L. Frisbie, Rockford; treasurer, D. W. Evans, Rockford.

Program—Tuesday, January 16, morning session, 10:00 a. m.

Prayer, Rev. Wesley C. Haskell; opening address, Pres. Geo. W. Collins; Why Farmers Should Keep Sheep, E. M. Breckenridge, Guilford; discussion; Successful Oat Culture and Treatment of the Seed, William Pollock, Shirland; discussion.

Afternoon session, 1:30 p. m.

Appointing of committees on nominations and resolutions; Potato Culture, Rev. Chas. D. Merrill, Beloit, Wis.; discussion; music, Miss Caroline Radecke, soloist; Mrs. J. L. Keep, accompanist; Teaching Domestic Science, Mrs. Nellie S. Kedzie, Peoria, principal of the Bradley Polytechnic Institute; Consolidation of Schools as a Measure of Economy and Better Schooling, Prof. O. J. Kern, Rockford, county superintendent of schools; discussion; question box.

Wednesday, January 17, morning session, 9:30 a. m.

Raising Beef for Profit, C. C. Lyford, Roscoe; discussion; The Advantage of an Agricultural Education, Prof. P. G. Holden, of the State University; music, Geo. N. Holt, soloist, Mrs. J. L. Keep, accompanist; How to Secure the Most Profit from the Dairy Cow, Clarence Coolridge, Winnebago; discussion.

Afternoon session, 1:30 p. m.

Report of committees and election of officers; question box; music, piano solo, Mrs. J. L. Keep; music, solo, Charles Olson; How Best to Preserve the Fertility of the Soil, Prof. P. G. Holden; discussion; question box; Farming as a Progressive Science, A. S. Collins, Belvidere.

Officers elected for the ensuing year: President, Foster Graham, Harrison; secretary, W. L. Frisbie, Rockford, box 606; treasurer, D. W. Evans, Rockford.

Average daily attendance, 600. Cost, \$100.47.



Geo. W. Collins, Rockford.

WOODFORD COUNTY FARMERS' INSTITUTE.

The annual meeting was held at Metamora, October 17 and 18, 1899.

Officers—President, Isaac Boys, Metamora; Secretary, W. H. Smith, Eureka; Treasurer, George Shuman, El Paso.

Program—Tuesday, October 17, 1899. Morning session.

Music, Knoblauch's Orchestra; prayer, Rev. Boelter; address of welcome, Mayor J. C. Irving; response, President Isaac Boys; election of officers and other business.

Afternoon session.

Music (song), Wilson Quartette; Clover, C. C. Pervier, Sheffield, Ill.; discussion; Swine Raising, G. A. Willmarth, Seneca, Ill.; President of Illinois Farmers' Institute; discussion; Horses, F. J. Berry, Chicago, Ill.; great commission horse merchant of the west.

Evening session.

Music, Knoblauch's Orchestra; recitation, Mrs. Huxtable; song, Wilson quartette; address, Domestic Science, Mrs. Kedzie, of Peoria, Ill., one of the most interesting talkers in the State and the leading instructor in the Bradley Institute; song, Wilson Quartette.

Wednesday, October 18.

Prayer, Rev. Boelter; song, Wilson quartette; Shall We Feed or Sell Our Grain? P. H. Davison, Yankeetown; Amos Marshall, Roanoke; 15 minutes each; Horticulture for the Farm, Prof. Blair, Champalgn; discussion; Corn Culture, E. S. Fursman.

Afternoon session.

Song, Wilson Quartette; reading, Miss Myra McGuire; How to Keep the Old Man on the Farm, Hon. J. L. McGuire, Hon. J. A. Ranney, Metamora; The Farm Home, Miss Mary Kaufman, Eureka, Ill.; How to Make the Home Attractive for the Children, Mrs. Mary Robertson, Casenovia; How Can the Farmer Improve the County Schools, W. J. Whetsel, County Superintendent of Schools.

Officers elected for the ensuing year: President, Isaac Boys, Metamora; Secretary, W. H. Smith, Eureka; Treasurer, George Shuman, El Paso.

Average daily attendance, 500. Cost, \$77.04.

Had an exhibit of farm and kitchen products and poultry.

SUMMARY.

Total number of counties holding Institutes in the year ending March 1, 1900.....	102
Total number of Institutes held in the year ending March 1, 1900.....	109
Total number in daily attendance at Farmers' Institute sessions.....	25,305
Total cost of the 109 Institutes.....	\$10,170 51
Average daily attendance at Institute sessions.....	323
Average cost of County and District Institutes.....	93 30

PAPERS READ AT COUNY FARMERS' INSTITUTES.

CATTLE DEPARTMENT.

Live Stock in Southern Illinois, by J. G. Glenn, Champaign, at Jackson County Institute.

Cattle Growing and Feeding, by Alex. Clark and William Logue, at Adams County Institute.

Prize Cattle and How They were Raised, by L. H. Kerrick, Bloomington.

Raising Live Stock, by Thomas Steers, America, at Pulaski County Institute.

Cattle and Stock Raising for Illinois, by A. P. Grout, at Brown and other County Institutes.

DAIRY DEPARTMENT.

Dairying, by W. R. Hostetter, Mt. Carroll, at Stephenson County Institute.

How to Secure the Most Profit from a Dairy Cow, by Clarence Coolidge, Rockford, at the Winnebago County Institute.

The Family Cow and Her Owner, by C. L. Stoddard, at the 16th District Institute.

Better Butter, Better Prices, by W. H. Stevenson.

DOMESTIC SCIENCE DEPARTMENT.

A Plea for Domestic Science Clubs, by Mrs. Harry Grundy, Morrisonville, at 19th District Institute.

Child Training, by Mrs. Robt. English, Marshall, at Clark County Institute.

Home Management, by Mrs. Lizzie B. Killian.

Home Makers, by Mrs. W. T. Price, at Cass County Institute.

Management and Economy as it Applies to Country Life, by Mrs. Etta R. Gelespie, at Douglas County Institute.

Report of the Cooking School at the State Fair, by Miss Penwell, at Shelby County Institute.

Report of the Cooking School at the State Fair, by Miss Margaret Black.

Report of the Cooking School at the State Fair, by Miss Eva C. Chapman.

Systematic Housekeeping, by Mrs. J. M. Clark, Sparta, at Randolph County Institute.

The Daughter's Place on the Farm, by Mrs. Brilla H. Cartwright, Upper Alton, at the Madison County Institute.

The Farmer's Daughter and Her Responsibilities and Opportunities, by Miss Jeanette Annegers.

The Sanitary Condition of the Farm Home, by Dr. W. J. Eddy, at Shelby County Institute.

Wholesome Foods, by Mrs. Lucy B. McMillen, Denver, at Adams County Institute.

Foods and Nutrition, by Miss Francis North, Supt. Burnham Hospital, Champaign, Ill.

EDUCATIONAL DEPARTMENT.

A Problem of the Farmer, by E. B. Bentley, Clinton, at the Dewitt County Institute.

Cash versus Credit, by John M. Berkholder, Clinton, at the Dewitt County Institute.

Consolidation of District Schools as a Measure of Economy and Better Schooling, by G. J. Kern, Rockford, at Carroll County Institute.

Does our Present Country School System Give as Much Encouragement to Remain on the Farm as to Enter the Professions? by Miss Minnie King, Fairfield, at Wayne County Institute.

Making the Most of Life, by Mrs. Van Horn, Plainfield, at the 12th District Institute.

Our Children, Their Training, by Miss Cora B. Holdridge, Plainfield, at the 12th District Institute.

Relief for the Poor, by Mrs. Flo J. Miller, Monticello, at Piatt County Institute.

Rural Libraries, by Miss Francis LeBaron, Elgin, at Lee county Institute.

Something of Life in Brazil, by Mrs. Eugene Davenport, Urbana, at Champaign County Institute.

The Country School, by R. P. Briegel, Columbia, at the Monroe County Institute.

The Farm as a Means of Early Training, by Mrs. G. B. Murrah, Creal Springs, at Johnson County Institute.

The Art of Living With Others, by Mrs. Jane Milne, Lockport, at Will County Institute.

The Relation of School Work to Life on the Farm, by Frank H. Hall, Jacksonville, Ill.

FARM DEPARTMENT.

Agricultural Department, What it is Doing for the Farmer, by Wesley Rankin, Media.

A Renter's Corn Crop, by E. J. Taylor, Ridge Farm.

Are the Illinois Farmers Making the Most of Their Opportunities? by Wiley M. Dewees, at Piatt County Institute.

Conserving the Fertility of the Soil, by H. B. Rice, at Morgan County Institute.

Corn Culture, by O. J. Avery, Prairie Home.

Coöperation Among Farmers in Marketing the Products of the Farm, by Geo. W. Wilson, Sparta, at Perry County Institute.

Cow Peas as a Fertilizer, by J. W. Stanton, Richview.

Fertility of the Soil, by R. B. Starr, at Adams County Institute.

Grain and Stock Raising, by Frank Moore, at Monroe County Institute.

Grass Culture, by H. G. Easterly, Carbondale, at Jackson county Institute.

How to Improve Corn, by A. D. Shamel, Urbana, at Tazewell County Institute.

Restoration of Soil Fertility, by E. A. Riehl, at Clinton County Institute.
 Successful Oat Culture, by Wilbur H. Pollock, Shirland, at the Winnebago County Institute.

The Cost of Timothy Hay as Compared with Shredded Corn Fodder, by J. E. Eichelberger, Plainfield, at 12th District Institute.

The Farmer's Garden, by S. N. Black, Clayton, at Adams County Institute.

Tiling Swamp Lands, by J. H. Kinker, Villa Ridge, at Pulaski County Institute.

Wheat Culture, by E. L. Grosh, Clayton, at Adams County Institute.

Listing Corn, by S. Allerton, Chicago, at Piatt County Institute.

GOOD ROADS DEPARTMENT.

Good Roads, by Van Vleck, Philo, at Champaign County Institute.

Our Road Laws, by Judge Anthony Thoraton, at Perry County Institute.

The Prevention and Destruction of Weeds on the Highways, by A. F. Lambert, Romeoville, at the 12th District Institute.

Tile Drainage for Highways, by H. T. Thompson, Huntley, at McHenry County Institute.

Good Roads, by W. L. Frisbie, Rockford.

HORSE DEPARTMENT.

The Horse, by John Landigran, Albion, at Morgan County Institute.

HORTICULTURE DEPARTMENT.

Cultivation of Orchards, by Joseph V. Kraus.

Spraying, by L. Berry, Carlyle, at Ford County Institute.

The Farm Orchard, by William D. Barr, at Lawrence County Institute.

What Fruit to Plant, by C. N. Dennis, Hamilton, at Adams county Institute.

POULTRY DEPARTMENT.

Poultry for Profit, Mrs. William Chandler, at Douglas County Institute.

SWINE DEPARTMENT.

Hog Raising, by Eddy Claybaugh, at Henderson County Institute.

Profitable Pork Production, by T. J. Van Metre, at Stephenson County Institute.

The Breeding and Management of Swine, G. A. Willmarth, Seneca.

PAPERS READ AT COUNTY FARMERS' INSTITUTES.

The papers read at County Farmers' Institutes, embodied in this report, were selected by the executive committee of the Illinois Farmers' Institute from the lists of papers recommended by the directors from the several congressional districts.

These lists contained carefully prepared, practical, instructive papers, all of them worthy of publication and careful reading. But more of them were recommended than could possibly be published within the limits of this volume.

There were also a large number of equally valuable, instructive and entertaining papers read at the several County Farmers' Institutes which the directors could not secure.

To select from so many, when all were so excellent was no easy task. The following papers were accepted by the committee with a view of covering as wide a range of topics as possible. Topics which would be of the most general interest to the farmer and his family and would apply more fully to the State at large.

LIVE STOCK IN SOUTHERN ILLINOIS.

By J. C. Glenn, of Champaign, Ill., before the Jackson Co. Illinois Farmers' Institute, at Murphysboro, Oct. 24, 1899.

The welfare of the people of our country is so dependent on agriculture that knowledge on this, the greatest of occupations, is sought with constantly increasing eagerness, whether such knowledge be imparted by men speaking from actual experience, without claim to information gained from written treatises or scientific research, or men deeply learned in theory, reinforced by the results of scientific investigation.

Standing easily first in importance, in agriculture is the great problem, how to most successfully breed, mature and market live stock with a view to profit for the producer, as well as adding to the comforts and the enjoyments of life.

Standing as we do at the very threshold of the 20th century, after a long period of years of most wonderful activity in discovery and development, in which men of energy and capital have sought new fields, offering promise of reward, we find in the southern part of the great State of Illinois the garden spot of the United States, a very large territory, as yet only partly developed, possessing a soil, which by reason of its natural fertility and location, is capable of producing profitable crops in as great abundance and variety as any locality in the United States. This territory of such splendid natural resources, is peculiarly adapted to the successful breeding, raising and marketing of the different kinds of live stock, and slowly but surely these facts are forcing themselves upon our people. Let us briefly state some of the condi-

tions necessary to success in the live stock industry. First. A fertile soil, combined with climatic conditions that insure the production of an abundance of such foods as are best suited to promote the vigorous growth and maturity of animals.

Southern Illinois meets these conditions as completely as any country in the United States. All that is necessary for the production of vast supplies of animal food products of the highest value is for the farmers and stock raisers to adopt and pursue a policy that has for its purpose the production of such foods as are best calculated to insure the greatest and most profitable growth and maturity of live stock that will at the same time not only maintain but constantly increase the fertility of our farms, and it is a fact of the highest importance, a mighty truth, that the friends of agriculture ought to keep constantly and prominently in the foreground, that the very foods that best promote vigorous growth of bone and muscle and flesh in animals are the products best calculated to maintain and increase the fertility of farms, whether we consider the fertilizing value of these food plants in their direct relation to the soil or their value in connection with the grazing and feeding of animals.

Such food products as the different kinds of clover, cow and other kinds of peas, soja and other kinds of beans are all well known to be of the highest value as soil fertilizers and they are the foods that produce large growth of bone and flesh and a vigorous constitution in animals.

What country is better adapted to the production in great abundance of these most valuable animal foods than southern Illinois? How admirably the soil and climate of southern Illinois, a country not yet half developed, are adapted to a system of farming and stock raising, which, if adopted and pursued, would make this country rich, even beyond the dreams and hopes of those who know its vast resources and possibilities; a country which in conditions that best fit a country for comfortable homes and the production of the comforts and luxuries of life can not be excelled anywhere in this broad land.

It may be thought by those that have not closely studied the subject that because southern Illinois is not in what is generally termed the corn belt, it is therefore not the best for live stock, and in this connection it is important to emphasize the fact that a very large part of southern Illinois is a splendid corn country, and that an ample supply of corn can be produced to furnish ready for market, the tens and hundreds of thousands of animals that may be grown on our grasses, clovers, cow peas, soja beans, bran and middlings, all products of southern Illinois, with larger and stronger frames and muscles and more vigorous constitutions than can possibly be produced where corn is the principle food used.

I do not wish to be understood as discouraging the use of corn in its proper place and as a valuable part of the well balanced food ration. Corn has been in the past, and will continue to be, the cheapest and most valuable fattening food for live stock, but it should be constantly kept in mind by the farmer and stock raiser, that while corn is the cheapest and most valuable fat producer, that it is not a bone and flesh producer, and that flesh, what we call red, lean, meat, is the valuable part of the carcass, that gives the animal most value in markets, and that the cultivation of corn decreases the fertility of farms.

As southern Illinois is so well adapted to the production in great abundance of bone and flesh producing animal foods as well as the production of corn, ample for the purpose of fattening the animal ready for the market after a strong frame and vigorous constitution has been built by the use of the different grasses, clovers, cow peas, soja beans, bran and middlings, the farmer and stock raiser need only use corn to help finish the animal for market and perhaps as a small part of the ration for the growing animal to supply animal heat.

There is no greater mistake than the exclusive or principle use of corn as a food for young and growing animals of any kind, such a course of feeding produces an animal of small weak bone and a feeble constitution and should be avoided at all hazards.

Let me once again urge upon the farmers and stock raisers of southern Illinois to make good use of these foods here in such great abundance, foods that are not only best adapted to the successful growing of live stock, but will increase and maintain the fertility of their farms and prove a source of wealth, comfort, luxury and infinite satisfaction and result in making southern Illinois what nature fitted her to be, one of the grandest and richest sections of the great Mississippi Valley.

Referring again to corn, the fact it has been proven by the highest authority that taking the entire corn stalk, or plant, ear and all, 38 per cent of the nutritive value of the plant is contained in the corn stalk and fodder and 62 per cent in the ear. No intelligent stockman needs to be told of the value of well cured corn fodder as a food for live stock, and farmers should no more think of throwing away 40 per cent of the value of their corn crop any more than they should think of throwing away two bushels out of every five of wheat or any other crop that they raise.

An acre of corn that will make 50 bushels of shelled corn, would have, together with the fodder well cured, a feeding value of about 75 bushels of corn. Can the farmer then, in this day of close competition, afford to throw away the value of 25 bushels of corn to each acre by neglecting to harvest and save his fodder in good condition, but here the important fact forces itself upon us that to realize the value of this corn fodder, the farmer must keep live stock to consume it, turn it into beef and mutton as corn fodder is a commodity that will bear shipment in this way. He must feed it or lose its value. Kaffir corn and all the different varieties of sorgum are splendid foods for live stock and produce a large amount of feed per acre, stand drought much better than Indian corn, and can be planted to be cut and put up in shock or may be drilled or sown broad cast and mown and cured as hay. The sorghums, as all know, remain green and retain the full strength in stalk and leaves before being harvested long after Indian corn is perfectly dry. Stock feeders west of the Mississippi river rely largely on those foods because of their value as foods and because of the certainty of the yield, drought doing little injury to them. Southern Illinois will raise these crops as certainly as any region in the United States and our farmers and stock raisers should raise a large amount of these crops.

One reason for the slow development of southern Illinois in live stock interests is the fact that its people do not realize the natural richness of their lands and their capability of raising immense amount of pasturage and foods for live stock if the owners of lands will only devote them to such uses.

The farmers of central Illinois, what is known as the corn belt, are justly proud of their country, where farms sell for \$70.00 to \$100.00 per acre, where two crops are relied on as certainties only, that is corn and oats, but these \$70.00 to \$100.00 per acre lands do not grow more corn fodder per acre than tens of thousands of acres of our hill lands bordering on small streams and the great Mississippi river, while our bottom lands far excel in natural fertility and lasting qualities the lands in the famous corn belt.

Today may be seen growing on the hills overlooking the Big Muddy, the Kincaid and the mighty Mississippi and other streams, corn that will yield as many bushels per acre as the average acre in central Illinois, with a much larger yield of fodder than is grown in central Illinois, and all this corn and fodder, together with the other crops that may be grown in southern Illinois should be fed to well bred live stock that would find a ready and profitable market in the great near by city of St. Louis, or in Chicago. The location of southern Illinois, its nearness to market, its ample facilities, and low rates by rail or river are all advantages that count immensely in farming and stock raising.

The stock raisers motto should be, "good breeding and good feeding," these must go hand in hand. It does not pay to raise scrubs and there is no excuse for doing so when full blood males may be readily obtained. A number of farmers could join in the purchase of animals full blood and all reap the benefits and so devote the cost of obtaining full blood animals as to make

the same a small matter to each individual. There is a wide difference between raising a little spindling half Jersey steer that sells when fat for \$40.00 and raising a high grade Short Horn Anguser Hereford that would sell today at \$75.00 to \$100.00, owing to the age and flesh.

What is true as to cattle is equally as true to sheep, hogs and horses. The time will soon come I hope, when the value of this part of Illinois as a sheep country will be appreciated.

In central Illinois a level country of black and much of the time damp soil not well adapted to sheep, many farmers sell \$7.00 to \$9.00 worth annually the product of one grade ewe. With good care a flock of ewes will average 1½ lambs annually that will sell for \$4.00 each or \$6.00 for lambs and the ewe will shear about \$2.00 worth of wool. What industry is more profitable, and when it is known that sheep will almost clear land of sprouts and weeds and make a growth of mutton and wool while doing so thus killing for the sheep raiser "two birds with one stone," that is getting rid of the weeds and sprouts, clearing the land and raising mutton and wool while doing so, the wonder is that the rich hills of southern Illinois do not now graze tens of thousands of sheep to enrich their owners and clear up the lands and add wealth and beauty to our country.

If several of the farmers would join together and go, if need be to Kentucky or Tennessee and buy one or more car loads of the common but hardy ewes, ship them here and divide them among themselves, and then join together and buy a few full blooded males, Shropshires or some combined mutton and wool breeds and begin grading up, they would in a short time have a good grade of sheep fit to go to any market, in fact the men who would do this would make money from the start, for the lamb the product of the first cross would be a surprisingly good and salable sheep. In this way this country could be at little cost, made a sheep raising country, second to none.

Of course I would prefer to start with a better grade of ewe, but our farmers perhaps, would prefer to start with a ewe that is hardy, a good mother that will raise one or two good lambs, a ewe that will cost perhaps \$2.00 each instead of starting with ewes that would cost \$5.00 to \$8.00 each.

Grading up sheep and hogs is comparatively quick work when full blood sires are used and the profits resulting from such breeding should be sufficient inducement to lead farmers to adopt such methods.

There has never been a time when horses of the right type were more in demand in the markets of the world than now. The heavy draft horse, the coach and the carriage horse or the light harness horse are all in active demand, but purchasers at large prices demand a horse of high class, if a draft horse he must meet the demands for heavy draft and look well. If a coach or carriage horse is wanted he must have good size, elegant conformation and beautiful and high all round action and style, with as much speed as is practicable in combination with these other qualities.

If a light harness horse, he must be a handsome individual with beautiful style and action and the more speed the better. Southern Illinois is splendidly adapted for a good horse country.

Experience in the past few years has clearly proven that to raise and mature stock ready for the market at the greatest profit, the animal should have from the beginning of its life an abundance of food best adapted to promote its rapid growth and vigorous maturity at the earliest age possible. Early maturity is now the motto of our most successful stock raisers. It does not pay to keep a steer until he is three or four years old to take on flesh during the summer and starve it off in some bleak stalk field or around a half rotted stack in the winter. It does not pay to remake lost flesh once, twice or more. Push the animal from the start. Mature it ready for market young. Carry it over not more than one winter if possible. Baby beef, baby mutton, and baby pork is the kind that makes the money.

The agricultural fairs in our different counties may do much to encourage the live stock industry by giving as liberal premiums as circumstances will justify and adopting the plan of holding auction sales of blooded stock on the fair grounds during each fair, and encouraging the stock raisers in var-

ious ways to combine and purchase full blood animals to take to the farms and start the good work improving our farm animals and adding wealth to the country.

The lack of time and the limits of this address will not allow me to go into details as to the many advantages that southern Illinois possesses as a live stock country but let me briefly urge upon the land owners and stock raisers to study the resources of your own lands and of this country. You will find it immensely rich in resources and possibilities. Subscribe for and read carefully a number of our farm and stock papers. Avail yourselves of not only your own observation and experience, but the observations and experience of others, the most intelligent and progressive as voiced in our agricultural papers, and you will thus receive constantly increasing encouragement to engage in the great work of making southern Illinois one of the greatest live stock countries in the United States.

In my opinion a meeting of farmers for the purpose of discussing the best methods of improving agricultural conditions should be closely confined to the business for which the meeting is intended, to the exclusion of political or other outside questions, but inasmuch as the question of tariffs and trusts has invaded this meeting I deem it not out of place to say that all trusts and combinations having for their purpose the lessening of the production of articles and increasing the price of the same to the consumer is detrimental to the interests of agriculture, and such combinations should be destroyed by direct and stringent legislative enactment. Such a method of dealing with the trusts I consider far more effective than any attempt to make political capital by charging or by intimating that this or that tariff, or financial policy, fosters trusts.

It is far better for a government to adopt a financial and tariff policy best calculated to give labor employment at good wages paid with sound and staple money, makes a good market at home for the products of the farm and develops the many resources of our country, rather than to adopt a policy that would starve the trusts to death by paralyzing the interests of labor, the farm, the mine, the factory, in short the interests of the great mass of our people.

The trusts must look to the great masses of laboring and producing people for a market for their products. Without the great mass of people are all fairly prosperous they can not have money to buy from trusts or elsewhere. A system that would starve and reduce to beggary all industry would leave nothing for the trust "octopus" to feed on, and it could not flourish or pay dividends on its watered stock. Therefore kill the trusts by direct legislative enactment, but let the great common people, the producers and laborers, all engaged in legitimate business, live and prosper by giving the legislation best calculated to promote the prosperity of our country.

I rejoice that sectionalism is now well nigh a thing of the past; that there is no north, no south, no east, no west; that there is now a united effort among the agricultural classes of our entire country to advance their common interests. I rejoice that the time has come when men of all religious and political beliefs may take each other by the hands and put their shoulders to the same great and irresistible wheel of progress that has already placed us first among the nations of the earth, with a future before us glorious beyond the power of the mind to grasp.

CATTLE GROWING AND FEEDING.

Read at the Adams County Institute by Alex. Clark and William Logue.

We will open our subject with the calf. It ought to be of a beef breed, it matters not of which kind, and if it be a grade will very likely prove as profitable for a feeder as a full-blooded animal.

Now, we have the calf on our hands, and the question is how shall we handle it to make it of most profit to the owner? The first two or three weeks it should be allowed to suck three times a day, especially if the days are long and hot, and by so doing you are likely to prevent dysentery, which often affects calves from one to six weeks old. If it should happen that the calf is so affected, turn it with the mother and let it stay with her until it gets all right

again. In our experience we have never lost a calf treated in this way. When the calf is five or six weeks old we place oats or bran in a box in the lot where it has access to it. We do not approve of letting the calf run with the cow any time of the year if it is healthy. Let the calf to the mother twice a day until it is about four months old. It has learned to eat, increase its feed. Shelled corn and oats are preferred. Feed in the lot that the calf is in the habit of staying in at night.

As soon as it has learned to eat its rations of grain all right, shut off the milk gradually and it will not fret after the mother. Now we have the calf weaned and we must not slack up on the grain, but rather increase it; and when the pastures begin to fail put hay in the rack so that it may learn to eat the hay before the grass is entirely gone.

What we have said up to this point relates to calves in general. Now let us take up the steer calf, especially. He should have grain and hay treatment during the winter, and when grass comes his box should be removed to the pasture, provided the pasture is not near the feed yard. We would leave off the oats and feed shelled corn alone while running on pasture. We have now brought him up to the age of one year and he ought to weigh 700 to 800 pounds. We hold him on this treatment until winter comes. At the beginning of winter he should weigh 1,100 to 1,200 pounds and is a fine, fat fellow ready for the market. But if we do not want to sell him now, we can feed him longer and he will gain as fast, or faster, than a stocker or feeder, as we commonly term cattle of this size and each pound you put on is worth $\frac{1}{2}$ to 1 cent more than that put on the thin steer.

Now we have the calf pretty well matured and we believe he is all right. We will next take a load of stock, or feeding steers, in the fall of the year when most farmers commence feeding before the grass is all gone. Commence feeding snapped or shock corn about ten ears a day, continue this for ten days, then increase the feed to twice a day. By the time the grass is gone you will be feeding about forty ears a day. We are now ready for the feed yard. First, let us look to the arrangement of the yard. Place the boxes so as to have plenty of room, fill the hay racks with clover hay, which is preferable. Feed twice a day a little more than they were getting on the grass, increase this until you get them on full speed, being careful that they are not pushed too fast to a full feed. Increasing one ear a day will be fast enough.

When we say full feed we mean just what they will clean up. Don't have anything but the chewed cobs in the boxes. This is our plan for winter feeding. Our reason for not keeping corn by them is that changeable weather affects the appetites of cattle. In soft, damp weather a steer on full feed will not eat enough to hurt him; but when the wind changes and the weather grows colder his appetite sharpens and he is liable to gorge himself. Summer feeding is different. You can fill up your boxes and turn your cattle to them. We have never had bad results by so doing. A steer may stand off a day or so and probably stiffen, but he will generally come all right in a short time. Water is a very important factor in connection with cattle feeding. They should have access to pure water every day in the year. Now we have our cattle ready for the market. But don't ship them yourself. Sell at home to some reliable shipper if you can, for it is seven times out of ten you do better than to ship your own cattle or hogs. If you meet a bad market and lose money you have no way in making it back. It is not so with the shipper. He will try to make it off of the other fellow. In preparing our cattle for weighing to a shipper it is business to fill them as full as you can. But don't use salt to do it. For it is unjust, and it is damage to the man you sell to, and to yourself if you have to drive any distance to the scales. We should be honest in this respect, for this is mostly done behind the buyer's back. And then we can sit down, count our money, and sing, "I want to be an angel," and let the shipper look out for himself.

PRIZE CATTLE.

By Mr. L. H. Kerriek.

I will try now to comply with your request to furnish you some account of the manner in which the grade Angus steers which we recently sold to Armour & Co., at \$8.25 per cwt., on the hoof, were raised and fed.

The cattle were what we call "two year olds." They were calves of the season of '97; some of them possibly came as early as April, others of them as late as October, or possibly later. It is almost needless to say that these steers were well bred. When we speak of a steer being well bred, we mean that he is so bred that with the right kind of feed and care he will grow into the highest and best beef type and the best weight in the shortest time. Whoever will frequent the Union stock yards at Chicago, and will keep a close watch on what is there done, will soon learn that the steer that brings the very highest price will generally weigh about 1,500 pounds. While lighter steers sell well, other things being equal, the 1,500-pound steer still sells better; and the old-time 2,000-pound steer is not now in it.

BREED AND BREEDING TELL.

Breeding and breed quality tell in the stock yards, as any shipper or breeder will very soon learn. The market topper must carry on fine, short, straight legs, a wide, deep, smooth, symmetrical body, with neat head and neck, all wrapped up in a mellow hide, which will be just as full of good beef as you can get it, and as I have said, about 1,500 pounds should be his weight. To produce such steers and such beef, I am now convinced that the growing and beef making process must be carried on at one and the same time and all the time from calfhood to the finished steer. The old method of first growing the frame of the steer, to be rapidly fattened up after he is two and one-half or three years old, and that principally with corn, does not now and will never again produce the highest priced beef, because that process will not produce the best beef, and it will not produce the steer that will net the most beef to his gross weight.

THE SIRE.

The two carloads of \$8.25 steers sold to Armour & Co., were sired by our stock bulls, Craig of Estill, H. B. 19518, and Craft of The Wells, H. B. 23450. This article is not written to exploit the excellencies of my stock bulls at all; I mean only to say that we use in producing these steers the very finest bulls we could get or raise, and indeed they are the same bulls that are mated with our finest full-blood and registered cows. No one need expect for a moment to raise the very best steers by the use of anything but the superior sires. When I was much younger in the cattle business and was known principally as a steer raiser and feeder I often visited the herds of noted full-blood breeders, and I remember that they frequently pointed out to me cheaper bulls with the remark: "Here's a bull that will not cost you so much money and he will get you just as good steers as one of these higher priced bulls." Fortunately I knew better, and I never yet bought a bull that I did not think at the time was a good one.

Craig of Estill was used five successive years in our herd. If he had been an indifferent animal, it would have required a lifetime to redeem the herd from the ill effects of his work, if indeed, it could ever have been redeemed. I can not give any encouragement to the cattle breeder who has not made up his mind that he is willing to pay the price that it will cost him to get a good bull. So much for breeding.

CALVES GET ALL THE MILK.

The \$8.25 steers were raised in much the same way that we have been raising our steers for a good many years past. Our practice is to allow calves to run with their dams, taking all of the milk, for six or seven months. If I should give you the whole story of the \$8.25 steers, it would be necessary to tell you that the cows, while carrying these calves, were fed and cared for

in a way that we might reasonably expect them to bring us strong and shapely calves. The cows were changed now and then from one pasture to another, which gave them change of water and of scene. In season, when the blue grass was plentiful and toothsome, for several months together they would get nothing but blue grass. For the rest of the year they got a variety of feed—corn fodder, timothy and clover hay, oats, corn and straw—in short, about every good thing we could grow on the best kind of central Illinois land. All cattle running on green grass of any kind will appreciate a little dry roughage of some kind and it ought to be provided always within their reach.

The old method of weaning calves and afterwards letting them learn to eat, we discard entirely. Long before our calves are weaned they know how to eat and are eating well. Their food at first is ground; we give them corn meal, ground oats, bran, almost always a little oil meal and sometimes shelled corn and whole oats when they are old enough to eat these. I do not mean that we give them all of these feeds at one time, but always more than one of them. We do not always weigh and compound their rations, but we make a very careful note of the effects of different feeds used and are guided by the condition and thrift of the calf, as to what we ought to give him and what we ought to keep from him. For roughage our calves get about what they like best. When not on good blue grass they have corn fodder, which is always good for a calf, clover hay when we have it, timothy hay and straw; but timothy hay by itself is poor roughage for young calves.

DO NOT OVER-FEED.

We do not crowd our calves the first twelve or fifteen months. We would rather not see them getting very fat; but we keep them growing well, and in what would be called very good condition. Black leg or black quarter, a very fatal and common disease, seems much more likely to attack very high conditioned or over-fed calves. Keeping this always in mind, we proceed more cautiously the first twelve or fifteen months. After they are fifteen or eighteen months old, and on until they are twenty-six or thirty-two months which latter are the ages at which our steers go to market, they are kept right along on full feed. We feed twice a day in large open troughs, the steers all eating together.

The very best manner of feeding and the only perfect manner is to feed each steer by himself, but this would require so much extra labor that it would greatly lessen the profits of cattle feeding, and it is our aim not only to produce the best cattle, but to produce them in the most economical way—the way that others may follow, or that may be generally followed with profit. The same kinds of feed are used to the end of the feeding process, increasing the corn, however, because that is our most abundant and cheapest feed and because it is the feed that fattens. The last year corn is generally fed whole; I mean not ground, but we break it up well in the troughs, and in the summer time when it gets very hard, we generally soak it, sometimes twelve, sometimes twenty-four hours.

REARED OUT OF DOORS.

The Christmas steers, and all of our cattle in fact, are reared out of doors; that is, they are not confined in barns or sheds, but are provided with good shelter from storms which they use at will. The steer appreciates more than almost any other animal a dry place where he may lie down, and a little bedding is a very welcome thing to him. He does not mind rains or snows very much, nor any kind of a storm that does not come sidewise.

We try to protect our two year old steers when they are getting pretty heavy and fleshy, from the flies, as far as we can during July and August, by providing a darkened barn or shed into which they may go to escape from the fly pest when at its most trying stage.

We have said over and over again, but will say it here too, that to produce the very finest beef in the most economical way, gentle handling is essential. One can almost talk the beef on to a steer and I know an uncouth, unsympathetic feeder can swear and scold and yell the beef off a steer.

Variety in the feed we constantly maintain. We make frequent changes in the feed of our steers. Nearly all writers on cattle-feeding warn feeders against the diseases that may follow changes of feed; this is all right, but other disasters and loss will follow the long continued feeding on any single feed. Of course we make changes with great care, always watching closely the effects, but variety in the feed and frequent changes in the feed will surely become canons of the best steer feeding.

THE RIGHT METHOD.

Can beef be profitably produced by the method I have here very briefly and imperfectly outlined? We believe it can. More than that, we believe it is the method by which beef can be profitably produced year by year on these high priced lands of central Illinois, or anywhere that lands are high. I do not believe the feed that I used to produce a hundred pounds of \$8.25 beef cost any more than the feed used to make lower priced beef. I don't believe it cost as much.

The old method of beginning to feed a steer at two and one-half years old will not go here any longer in beef cattle raising. If we are to raise beef cattle out of this high priced land we must get to market in a good deal less time and with better beef than we used to get there, and the process which I have outlined is the only one that I know of that will do it.

We raise steers for the sole purpose of converting the feed of our farm into high priced beef. Whenever a steer is not doing all that he can of that work in a month or a day he is loafing. The more feed a steer can use in a month—mark I say use, not waste—the more and better beef he is making and the more money he is making for his owner.

MAINTAIN DUE PROPORTIONS.

I said further back that we do not carefully weigh and compound the food rations for our calves or steers. I ought to modify that statement at least this much. We know that the body of a steer is composed of many different elements or substances, and he will require all of these in his feed, in something like their due proportion if he is to be made to grow and thrive in the very best way. In our feeding we have respect to all this, and aim at all times as nearly as practicable to supply, in their proper proportions, whatever the steer needs for his best and most rapid development.

Experience in feeding will teach the most careful cattle man a good many of the things he must know. But he is not obliged nowadays to wait for all his knowledge upon the tardy results of his own experience. Our agricultural stations in several of the states are getting valuable knowledge by actual experiments in cattle feeding, and they get some of it faster than any farmer by himself can get it. I acknowledge my indebtedness to the experiments in these stations for some very valuable information in beef cattle breeding and feeding, and any breeder or feeder will do well to note closely what they are doing.

RAISING LIVE STOCK IN PULASKI COUNTY.

By Thomas S. Steers; read at Pulaski Co. Institute.

As we have no vast prairies upon which our stock may roam in this county, we need not attempt to get a herd of thousands, but from 15 to 300 head, according to the size of the farm, and raise stock in connection with our regular farm work, feeding our surplus grain and hay to them and sell the finished product; in that way we will keep up or improve the fertility of our soil, advance the prices of grain and hay, and instead of receiving from 15 to 35

cents per bushel for corn, we will receive at least from 40 to 50 cents if we raise good thrifty stock, which I claim will not cost more than one-half what the scrub cost pound for pound, because the scrub will eat more and not make near the growth the better stock will.

If we will keep stock enough on our farms to consume our surplus hay, grain, and straw, and especially the straw, the fertility of our farms will not become exhausted so soon as they otherwise would.

I have noticed for the last few years our farmers have been touching the match to the straw stacks just as soon as the threshing is completed, not stopping to realize that we are robbing the soil and not giving anything in return for the crop just taken off; whereas, if stock consume the straw and the manure is spread upon the fields the fertility will be increased and we will raise better crops and the sale of the stock will be no small item.

Cattle in their native state are almost free from disease, but man, breeding with some particular object in view, has often weakened the constitution of the breed; but I am of the opinion that the manner of feeding and caring for them produces more diseases in this country than any other agent. Our steep hillsides, which we can not profitably till, if sown in some good pasture grass can be made even more profitable to us than the part we till.

In our county clover is at present more extensively used for pasture, but during the early summer months it grows so rapidly that the cattle are often troubled with clover bloat, and we are sometimes compelled to use the knife and quill to save them. With the different grasses for permanent pastures such is not the case. They may eat during the earlier months, while the grass is so fresh and green, until they do not feel easy, but dog days bring a wonderful change to the same luxuriant pastures and they alter their green to a dull brown, the vegetation making little or no growth and the cattle, which were so well fed during the earlier months, now are very scantily fed and in addition are compelled to fight flies, which seem to be worse at this season.

Cattle will do much better during dog days if they have a strip of wood land with a stream of water or a pond, where they may go for water and get rid of the flies.

Our farmers are becoming more interested in stock raising as the years go by, realizing that the fertility of the farm can in no way be so easily maintained as by adopting a system of farming that will consume all the grain and grass produced on the farm, and marketing only the finished product in the shape of the very best of improved stock.

A prominent paper, the Republic, of the 19th inst., gave the best breeds of beef cattle in the following order, placing the Durhams or Short-horns at the head of the list; the Herefords, the Polled Angus, the Devons (a breed of cattle of uniform red color, with a white bush at the end of the tail), the Brown Swiss, the Holstein following; the Holstein being recommended as milkers as well as beef. My preference is Durham and Herefords. For dairy purposes the Jerseys probably are best.

I see no reason why Pulaski county can not produce cattle just as good as the counties north of us and in sufficient quantities to ship to better markets when the home market will not pay a fair price.

And I believe if we will raise better cattle and more of them we will have no trouble in obtaining better prices for them. In September a stock buyer from Chicago offered me 53½ cents at the farm for good cattle. He wanted either Durhams or white faced, as he called the Herefords, and either in a good thrifty condition or fat. He said he did not want scrubs at any price. Only a short time ago some good 1,400-pound steers sold in Chicago for 7 cents per pound.

Horses and mules of good quality may be raised at a profit in Pulaski county. The hog as a subordinate to consume the by-products of the farm will pay a good profit. Sheep raising requires but a small capital and can not be beat for ridding a farm of sprouts and manuring the land.

Prof. Roberts, an American expert, calculates the value of manure from one sheep to be worth \$1.60, thus increasing the value of the sheep on the farm that much; sheep, however, will not do well on low land.

The time I think has passed for selling calves for veal in Pulaski county, for the difference in price between grown cattle and veal is so small that the farmer will make more by raising the calf than by selling them for veal.

With a good pasture and a small expense the calf at present prices—I will use Chicago prices for comparison—October 26, 1899, prime beef \$6.40 to \$6.70 per 100 pounds, veal \$6.75 to \$7.70 per 100 pounds. We will presume the beef at 3 years will weigh 1,200 pounds at \$6.40 will bring \$76.80, while the calf 6 weeks old will weigh about 150 pounds and at \$6.75 will bring \$10.12.

You may count the expense of raising the calf and see if it does not pay to raise them. Feed crushed feed, a crusher will not cost much, the calves will soon learn to eat and they may be weaned earlier without checking their growth. Stock will get all the substance there is in corn or other grain when it is crushed, as it will be more easily digested, thus making more meat for the amount of feed, also increasing the profit.

CATTLE AND STOCK RAISING FOR ILLINOIS.

Paper read by A. P. Grout, of Winchester, Ill., before the Brown County Farmers' Institute.

It is said that agriculture may be divided into four stages or phases of evolution, all of which may be plainly seen at the present time and through which all of our highest agriculture has gone.

The first is the pastoral stage—the agriculture of the uncivilized man and of the old testament, as well as that of our own western frontier since the first settlement of this country. It is the agriculture of flocks and herds as now represented on the plains or range.

It is the most primitive of all agriculture but yet capable of being successfully continued for long periods, or until crowded out by the demand for a greater per-acre production.

The second era is the time of the soil-miner or soil-robber. This is the system of which the Dakotas are at the present time, with their vast wheat fields, the most conspicuous example. It is what Illinois and other middle-western states were thirty years ago, or western New York and other portions of the eastern states were sixty years ago.

It has been well said that this system is the "killing the goose that lays the golden egg." It goes well for one generation but it is a curse to posterity. The soil-robber goes to a new field and finds, as Douglas Jerrold has said, that the earth has "only to be tickled with a hoe and she laughs with a harvest." The marvelous store of fertility in the soil, together with its recuperative powers, may in some instances allow this to be continued for long periods, but the ultimate end is a mathematical certainty, and when the earth no longer responds readily to the tickling process the farmer must either change his methods or move on and seek new fields to impoverish.

It is written in our agricultural history that under ordinary conditions this type of agriculture can endure for only a single generation. Unless a higher type of farming comes to its relief its end is the deserted farm. Generally this kind of husbandry may be called the agriculture of cereal production. It is a husbandry that in the end can beget nothing but poverty.

After the soil-robber has worked out his claim and departed toward the setting sun, leaving nothing in sight but a mortgage, then comes the representative of the new and better type of agriculture—the agriculture of animal industry.

This is pre-eminently the man with the dairy cow and the fat steer, with the highly-bred pig and the mutton sheep—the man of herd books and stock shows. He is the agriculturalist who every day works a miracle—who takes twenty tons of hay and grain, transforms it into a ton of butter and draws it

to market in a spring wagon; who takes a field of corn and makes it walk to market on its own legs; who fattens ten or a dozen fine steers where his paternal forerunner grew one lean, long-horned ranger. With all these changes comes in new social conditions; because there is more work to be done, the rural population becomes denser; and because skill and science takes the place of rude handicraft the intellectual life of the community is quickened.

It is an agriculture that is radiant with promises. While the previous type offers only the dreary prospect of a steadily decreasing fertility, animal husbandry makes certain the fact that because the soil yields much this year is a reason why it should yield more next year. It recognizes the fact that a system which returns to the soil 92 per cent of all the fertility removed by the crop, aided by the newly available fertility and the nitrogen added by bacterial and atmospheric agencies, can not fail to raise lands to a high and constantly increasing state of productiveness, while at the same time the return will be larger than by any ordinary system of cereal production.

After the stockman has moved, not because he wants to but because he must find cheaper lands adapted to his purpose—then comes the last and, possibly, highest type of the evolution of the farm—the growing of high grade specialties. It is typically the agriculture of the strawberry and the truck garden, of the forcing house and conservatory. It is the agriculture which takes the cold winter sunshine and filters it through glass and warms it with coal, which derived its heat from the sun a million years before, and in January this farmer produces a rose which will sell for as much as a bale of hay or a bushel of wheat. This is farming that can be carried on with land worth \$1,000 an acre. It is the agriculture which employs perhaps a half dozen men on an acre, and produces from that acre half a section of Dakota wheat land.

But it is the third stage—the agriculture of animal husbandry with which the farmers of Illinois are most concerned today. The soil-robbler has infested our beautiful and fertile prairies until today the clay spots—the barren and unfertile spots are in evidence on every slope and hillside and gradually decreasing crops on every hand proclaim the waste and destruction that has been wrought to our once most fertile land by the second era, or the agriculture of cereal production.

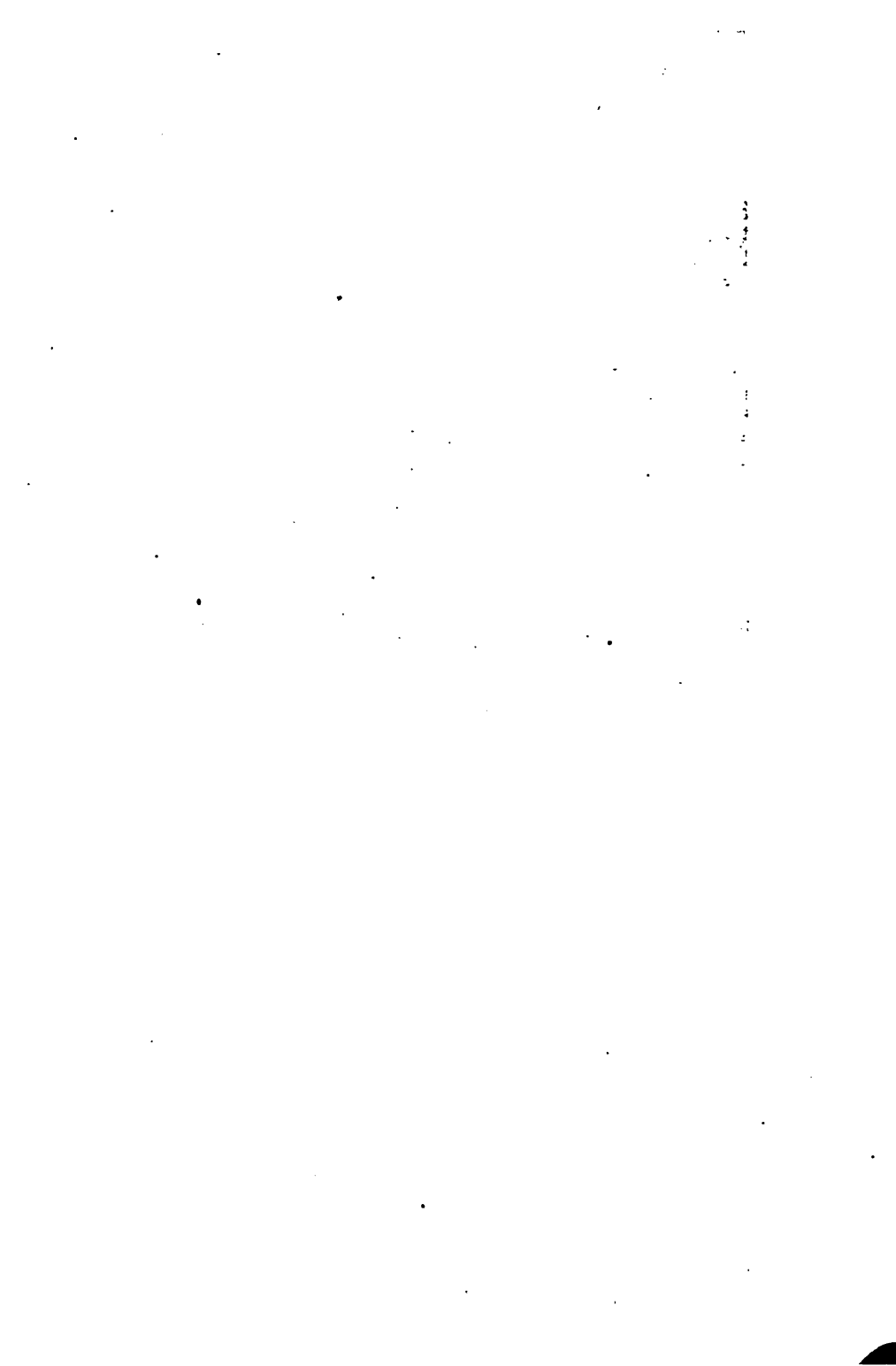
In the discussion of cattle and stock raising for Illinois we have no desire to advocate or boom the business because the outlook is better today than it was a few years ago, but because of its own intrinsic and inherent value, freed from all speculative interests and on its own merits.

Our plan for the raising of more live stock in Illinois is based on four principal reasons.

1. Because of the wonderful natural advantages and location of Illinois as a stock-raising State.
2. Because of the necessity of maintaining the fertility of the soil, which can only be done by some form of animal husbandry.
3. Because of the importance of providing a home market for the products of our farms; and
4. Because some form of stock raising is the basis of permanent and successful farming.

The wonderful fertility of the Illinois soil, its adaptability for growing blue grass, clover, grasses and forage crops of all kinds, corn, wheat, oats, rye, barley, and, in fact everything needful to build up the animal frame and ripen and perfect it for market, are here grown in that perfection and abundance which is not equaled by any other section of the country.

We are situated in the heart of the great Mississippi valley, with every possible facility for transportation and convenient markets for our products. We are midway between the cold, bleak winters of the north and the hot and grassless sections of the south. We enjoy a mild or medium climate—neither too hot nor too cold. It admits of the growth of corn—the greatest of all meat and fat producers—in the fullest perfection and abundance, and blue grass, the greatest boon of all to stockmen, indigenous to our soil and climate.





"BABES IN THE WOOD"

Carload, sixteen head, two years old past, high grade Angus steers. Bred, raised and fed by L. H. Kerrick. Sold December 13, 1899, at Union Stock Yards, Chicago, by Clay Robinson & Co., to Armour & Co., for \$8.25 per cwt. on the hoof. Average weight, 1535 pounds; dressed weight, 1009 pounds; per cent., 65.64. The price paid for these steers tops the market 75 cents for sixteen years.

That Illinois should rank first among all the states in this Union in the number and superior quality of its live stock is no Utopian dream, but the idea is founded on our vastly superior natural advantages, of which we have only to avail ourselves and the boon is ours. Nowhere on the face of the earth are the environments so favorable for the production of stock of the highest beef, pork and mutton type as in our own great State. Our very surroundings are more conducive to large growth in the animal, to rotundity and perfection of form and completion of finish than anywhere else in the United States.

There is no reason why we should not become preëminently noted for the number and quality of our herds of fine stock or why our herds of pure-bred cattle, horses, sheep and hogs should not make Illinois the Mecca for the breeders of fine stock from every section of this broad land.

We have fewer obstacles to overcome and more conditions favoring stock raising in Illinois than any other state or section of the United States. Animal husbandry is the business of all business intended by nature for such a state as ours, and it is not a credit to our intelligence and good judgment that we have allowed the great State of Illinois to fall from the greatness of its former days in the stock interests to the inferior position it now holds as compared with other states of the Union. January 1, 1899, in the number of horses Illinois ranked third, in mules eleventh, milch cows third, cattle fourth, sheep nineteenth, and swine 5th.

There can be no reason or excuse for this state of affairs other than a failure to avail ourselves of the splendid opportunities offered us.

The raising of some kind of stock on the Illinois farm is a necessity in order to preserve and maintain the fertility of the soil.

To preserve and maintain the fertility of the soil is the first requisite of successful agriculture.

It has been said that how to maintain the fertility of the farm is the question of all questions in farm life. To solve it would add more to the prosperity of the country than to solve a great many of the so-called problems of the day. There is generally two sides to every question, but there is only one to this, namely: We must save the manure. Without manure there is no fertility. Stock-raising, therefore, is the foundation of successful farming. It is impossible to retain the fertility of a farm not connected with animal industry.

In view of these facts we would reverse the usual order of things and would keep stock for the purpose of maintaining and increasing the fertility of our farms, and not keep the farms for the purpose of maintaining our stock. We would make stock-raising the means of aiding and promoting our farm operations and not so much the end or object to be attained.

It has been said that "farming" in its true sense implies a great deal more than we ordinarily attach to the word. Good farming consists in growing the maximum amount of whatever crop we grow at the minimum cost, leaving the soil in the best possible condition for succeeding crops. It implies even more than that. The quality or market value of a crop must be considered and the fertility of the soil be maintained and increased. In this sense "cropping" is not "farming." The great bulk of "farmers" are "croppers," not farmers. This is emphatically true of most "tenant farmers."

In this connection I may be pardoned for referring to my own experience. I am not today engaged in farming and stock-raising exactly from choice, but rather, as it seems to me, from necessity. Circumstances some years ago placed me in charge of a number of farms. They were all rented and it was expected that I would continue to rent them, but in the course of time I discovered, what I presume every one knows, that the average tenant farmer, without means, without stock of any kind, with nothing but his hands, an indifferent team and a few poor and worn-out implements, is a decidedly bad combination to place on a farm you wish to keep up and improve and from which you expect to receive sufficient return to pay taxes. I saw a good land as any in Illinois getting poorer and thinner year after year; the corn and

wheat crops growing smaller and distressingly less as the years went by, until at last, and for no cause except the worn out and exhausted condition of the soil, a number of acres of wheat was not tall enough to be cut with the binder. Previous attempts to secure a stand of clover and grass on this land had proven almost futile.

It was then that I determined to try farming myself. I reasoned that no land, however rich or fertile, would long stand the drain of the removal of crops, year after year, without something being returned to renew and keep up the fertility. I determined to put stock on the farms and feed them everything raised thereon and as far as possible to utilize the manure in restoring the worn-out fertility of the lands.

The result has proved very satisfactory in many respects. The same land that failed to produce wheat a few years ago this year gave me a heavy crop of timothy and clover, and after the hay was cut offered the finest pasture for stock, and the whole farm of 200 acres, which at the time referred to was offered at \$40 per acre, without securing a buyer, would now be cheap at \$75 per acre, and I would hesitate to offer it at that price.

The raising of stock on that farm in the past ten years and the utilizing the manure has added this difference to the value of the land—nearly if not quite doubled its value of ten years ago.

The wonderful natural fertility of our Illinois prairies can not long be maintained under the present system of robbing the soil. By the constant growing of grain and selling it, our farms, no matter how fertile or productive, become in time impoverished and run down. The cream is taken from the land and sold in the shape of wheat, corn, oats or other products. It has well been said that the man who will deliberately squander the generous bounty of fertility bestowed by the beneficent Creator is unthoughtful, ungrateful and improvident.

Stock-growing improves our farms, keeps them in better heart and brings them to a higher state of fertility. Manure is the great life-supporter and promoter of the soil, and the time is coming when we will be compelled to keep stock largely for the purpose of producing manure, if we wish to obtain success in farming.

The consideration of the subject of the stock interests of Illinois is therefore a most important one, not only in itself, but in its relation to the general farm economy. It implies a great deal more than is ordinarily attached to the subject. The important and vital question that now confronts the farmers of Illinois is: Shall we go on and further impoverish and exhaust our soil by the continuous cropping and sending of the grain to market, or shall we engage in stock raising and feeding and stop the flow of that golden stream, flowing outward from our prairies in the live stock foods that we fail to consume. While we would rejoice to see the live stock interests of the great State of Illinois grow and expand to the extent its unsurpassed fertility and resources entitle it, we want to see that development based on something more than the mere fact that corn can now be fed to hogs or steers with a fair margin of profit, for just so soon as this apparent profit fails to materialize will the business decline and be abandoned.

We would like to impress upon the farmers of Illinois the absolute necessity of making some form of stock raising the basis and foundation of our farm operations; that instead of going out of the business when a depression comes they seek for cheaper and better methods of rearing and feeding stock; that they will make the occasion the necessity for careful study, and instead of changing from one class of stock to another, or abandoning the business altogether, they will put forth the necessary effort to meet the changed conditions. We would like to see our farmers so wedded to their stock interests that when adversity comes it will only serve to make them think carefully and act energetically. The time has arrived when we should consider well what we are doing and whatever we undertake lay the foundation broad and deep. In all our operations we should keep the future steadily in view rather than the present—the maintenance or the fertility of the soil rather than immediate profits.

Henry Wallace says that "a correct theory of farming requires that the fertility of the land be maintained." This is the farmers' capital! Not the land itself, but the available and unavoidable fertility of the land.

The land is only the location for the deposit of fertility and for the support of the farmers' buildings and feed yards. The real worth is in the fertility of the land. The exhaustion of this, inevitable by continuous grain growing, is the exhaustion of the farmers' capital stock. In selling grain we simply sell our land by piece-meal; not the profits but the land itself.

The correct theory, therefore, of farming involves not merely grain production but meat production, and meat production primarily because in producing it we are selling our grain in the best market and can thereby keep up the fertility of our farms.

It is not a question of whether we can obtain a few cents per bushel more for our corn this year or next by feeding it to stock or selling it to grain dealers, but we must take into consideration the condition of our farms ten or fifteen years hence and decide whether we can afford to rob our soil even for one year by sending away any of the element of fertility except in the most concentrated form.

To obtain good prices for products in this country of magnificent distances, and consequently costly transportation, our products must be concentrated to the minimum of condensed form, such as beef, pork, mutton, butter and cheese.

The feeding of stock presents to us a market for our products—a better market than the one at the elevator because when we feed stock we sell economically. We get the market price for the product and then have left with us upon the farm from 75 to 92 per cent of the value of this product in the form of fertilizers to put upon our fields and to maintain the fertility of our farm.

There is, therefore, much in the question of stock raising to be taken into account which is perhaps overlooked and not generally considered.

The fertilizer problem is today in Illinois the most important single factor in modern agriculture. It is not intended that stock raising should in any way, or any degree, supplant any of the approved methods of restoring and maintaining the fertility of the soil—or rather, the rotation of crops or the raising of clover any the less imperative, but on the contrary, the raising of clover and other leguminous crops should be regarded as an essential, economical factor in the general plan of modern up-to-date farming—not a panacea for all ills, but a necessary common sense requirement.

When we are sick we first diagnose the case, endeavor to ascertain the cause and then apply the remedy. But in doing so we have long since learned that there is no specific for all ills. In this connection clover is sometimes mentioned as a specific for restoring and maintaining the fertility of the soil. It is a great remedy and one that ought never to be neglected, but don't make the mistake of looking upon it as a specific in all cases, for it only contains one of the three or four essential elements of fertility, viz.: nitrogen. But in connection with animal husbandry or stock raising, this must emphatically be recommended, not only as a fertilizer but as a stock food. It is a great waste, however, to simply plow it under when it is worth so much more when fed to stock and the manure returned to the land.

It has been said "the farmers' bank is the bank of earth." Like other banks it can only pay out what it holds, or discount its deposits. If there is a run on this bank and it becomes insolvent of plant food, no amount of importunity of plant or planter can call forth an issue of current funds.

Dropping figurative language, we may say that we feed the soil when we add any material which may directly or indirectly furnish plant food, or when we bring into active form the reserve materials in the soil.

It has been well said "That the policy which the farmers of Illinois must adopt, if they ever expect to attain their former prosperity and reach out for that degree of prosperity which our unexcelled natural advantages intend we should secure, is to provide a 'home market' for our crude products." By

"home market" we do not mean a market in the eastern cities or the cities of Illinois, but the market on the farm—a market for corn, oats, hay and grass on the farm on which they grew, without any cost of transportation except that which the farmer pays to himself for the use of his own teams and wagons. Nothing except live stock can provide this kind of a market.

The demand is now for more consumers, more "condensing factories"—represented by good feeding cattle, horses, sheep and swine—and less corn.

There must be live stock to assist in keeping up the fertility of the soil, to facilitate the proper rotation of crops, to furnish a "home market" that will enable us to use to the best advantage our grain, hay, corn fodder and other roughness, and in the end to coadense freight tonnage to a minimum. Live stock of some kind, or in some form, is an absolute necessity on every well conducted farm in Illinois today. We do not urge it as a popular fad, or so much as a paying investment in itself, but as the basis and foundation of permanent and successful farming.

Concerning the fourth reason assigned for advocating stock raising for Illinois, we have but a word to say. The growing of live stock in one or the other of its forms has been inseparably associated with the highest type of farming. Wherever we find a state or section forging away ahead in agricultural progress and more prosperous than other sections of the country then we find that state or section of country also distinguished for live stock production.

It is hardly necessary to call attention to the fact that the thrifty, progressive, money-making farmers of your own country today are not the grain farmers, but the farmers who are largely engaged in some form of stock raising and feeding. There is no gainsaying the fact that the most prosperous farmers in every community are the live stock men, or that the wealthiest states are those most given to live stock production.

The highest prosperity in agriculture, in any country, is obtained from good stock, through which to market all the grain, grass and forage of the farm, instead of selling it and the consequent fertility off the farm. The farmers of Illinois need to have the fact indelibly stamped and fixed on their minds, that when they sell grain or any product of the farm except in the most condensed form, they are selling part of their farms, and that if the practice be continued it is not only but a question of time, but an absolute certainty that the time will come when their capital stock will be exhausted and they will have no farms. There never was a more favorable time in Illinois than the present to engage in any or all of the live stock industries if the farmer will but do it in an intelligent and business-like way. We do not mean that he should rush into the business inflated with the idea of making large sums of money, or that he should go out and stock his farm with cattle, sheep and hogs of any kind, or at any price, but that he should first determine to engage in it as a settled and permanent business for a term of years, lay the foundation in the best blood to be found, avail himself of every up-to-date method of feeding and caring for his stock, and then gradually grow into it. Let him acquire experience and knowledge as his herds increase. Let him make the stock the market for everything grown on the farm. Let him save the manure and increase the fertility of the soil. Let him produce and utilize with his stock more grass and cultivate fewer acres. Let him raise his own feeders of better breeding and better quality, and by doing everything so far as possible within himself, free from all charges of middleman and the expense of transportation, adopt the safe and conservative business of breeding and feeding stock, and by so doing bring our grand old State back to its former standing as a stock-growing state and lay the foundation of a permanent and paying business.

DAIRYING.

By W. R. Hostetter, of Mt. Carroll, at the Stephenson County Institute.

Dairy matters are in quite a different condition from what they were, say ten years ago. The cry then was, "Build creameries and increase the dairy business." The building of creameries is checked, not that we do not need the creameries, but we stop to see if we have the cows to keep them going

before building. Another cause is the low price of butter and lessened profit, and the increased price of beef cattle and the increased profit in breeding them. The man who follows farm dairying as a business will make little if any difference in the amount he produces. He has culled his herd and tries fewer cows and less labor keeps his customers supplied.

It is the average farmer: the man who supplies the bulk of the milk to the creameries; the one who changes with the times, who raised hogs last year, produced milk this year and will raise beef cattle next year, that needs to be looked after at the present time. The number of cows he keeps, his manner of keeping them and the profit he derives is a matter of importance to the State and should properly have a share of the consideration of this meeting. He is the mainstay of the creamery, the supporter of the supply dealer—the country storekeeper—and indispensable.

In my township we have 154 farms, averaging a little more than 145 acres each. On each farm is raised 40 acres of corn, 24 acres of oats and 1-2 acres of wheat. This leaves 80 acres for hay, pasture, timber and waste land on each farm. There are 12 cattle to each farm, 4 of these being milk cows. I have given these figures so that you may have some idea of what the average farm is that I am talking about. The average cow in my township produced for sale \$11 worth of milk last year. We have creameries all around us, but not one in my township.

The average dairy should have ten or twelve cows. I venture to say that no farmer who takes that number and gives them a fair chance for two years will attempt to farm without them. The average farmer must make up his mind to the fact that he can not make anything by making up his own butter. The creamery has come to stay. It has become a necessary part of farming conditions. There are some abuses connected with the system, but these can be overcome if the farmers will work together to correct them. A well equipped creamery, with an honest and intelligent business man as manager, is a blessing to the community. The farmer's wife has not the strength nor the conveniences for making butter. There are very few farmer's wives who can see the necessity of proper conveniences, and if they do will get along with some makeshift instead of spending the money for things that a man would not hesitate to buy. A man with a dozen cows can better afford to spend the time studying the care and feed of them than to make the butter. The creamery can make the butter at one-third the cost for labor and several cents a pound better in quality, to say nothing of the extra butter fat that it will get out of the milk.

When I started in the dairy business there was no creamery within ten miles. I had everything as unhandy as it was possible for it to be. The barn was almost eighty rods from the house and the milk had to be hauled to the house and the skim milk and butter milk back again. We set the milk in pans in the pantry and churned by hand, guessed at the temperature of the milk and in fact did everything in the most idiotic manner.

When I speak of the average farmer having ten cows I mean milk cows. I don't care what breed they are if they are only milkers. I don't have much faith in what is called a "general purpose cow." It is not practicable for a farmer to keep two different breeds of cattle. He will generally be obliged to pick his milk cows from the ordinary cattle and the chances are that about one-half of them will be profitable milkers. By careful selections for a series of years a reasonably good herd of cows will be secured. A fair veal calf can be raised on skim milk at a very small cost compared with the cost of letting it suck. A better calf for dairy purposes can be raised on skim milk with a little flax added than can be raised by letting the calf suck. The great trouble with the farmer is that he allows his calves to suck the cows until they have consumed one-half to three-fourths of the milk product. The cow and calf are both spoiled. If a man has ten cows it will be much better to take five of them as milk cows, feeding and caring for them properly, than to take the ten and let the calves suck the milk until they are half dry.

At one time I was ambitious to have a hundred head of milk cows on my farm of 160 acres. I actually wintered a hundred head of cows and heifers one year and sixty of them were giving milk. I found that I had too many.

A large herd will not do as well as a small one. Another condition is that, if you have the required number of milkers, and are obliged to pay them for a full day's work and can only give them work at milking time, you are losing money. If you have fifteen cows for each milker, which is all any one should milk, and one of your milkers fails to put in an appearance, it leaves too many for your other milkers and the work is not properly done.

To repeat what I have just said, the average farmer should keep one milk cow to every fourteen acres of land. The milking must be considered as part of the day's work. The milk or cream must be sent to the factory. The cows should be dairy cows and the farmer should try to perpetuate their milking qualities. Don't try to make a firstclass beef and a firstclass milker out of the same animal. The average farmer should give his boys and girls better school discipline. We should find a market for our corn and oats on our own farm. We sell less fertility in butter and cheese than any other farm product.

HOW TO SECURE THE MOST PROFIT FROM THE DAIRY COW.

By Clarence Coolidge, at the Winnebago County Institute.

How to secure the most profit from the dairy cow is one of those perplexing questions that has troubled the dairyman from the time when dairying was in its simplest state to this present time, the beginning of this the twentieth century, with all of our modern improvements, machinery and inventions.

The paying dairy cow is the one making money for you, and it is to a man's own fancy whether she be a Jersey-producing milk, of a high quality, or a Holstein, of large quantity, or a high grade of any other dairy breed, so long as she produces more than it costs to keep her.

If all of our cows would make us a profit we would be making money; but in the majority of dairy herds, where from ten to twenty per cent of the cows do not pay for their keeping, we are doing well if we hold our own. Very few run a dairy for fun, and it is very discouraging to find we are no further along than we were at this time last year.

There is no real satisfaction without progress. Dairies are made up of individual cows, and to be a success every cow should show a net profit.

How often we have all said I wish all of my cows were like this one or that one, what a herd we would have; unfortunately nearly every dairy has unprofitable as well as profitable cows. One unprofitable cow takes the profits from at least three or four paying cows. It costs as much to keep a cow that does not pay her way as it does to keep a paying one.

In these days of keen competition the dairyman must reduce expenses and have none but the very best of cows. In order to have a profit from the dairy cow, we must have one that will pay for her keeping and return her owner a surplus.

There are two great principles in dairying that must be strictly adhered to or failure is sure to follow.

First, we must have a cow suitable for our business; and, secondly, and of no less importance is her feed and care. We may have the best of cows, but without proper feed and attention, failure is sure to be ours, while with poor and inferior cows no amount of feed and care will return any profit to the owner.

The dairyman should be more careful in his selection of cows; he should be as careful as any other business man would be in business.

What would you think of a liveryman buying a Norman or a Clydesdale for his business, or a farmer purchasing a pair of trotting horses to pull his plow. You would say something was wrong, and undoubtedly there would be failure in both cases. This is the reason there are so many failures with the dairymen; they buy cows with no regard to their wants, but simply because they are cows.

If I wanted a cow for family use I would have the best Jersey I could buy. It is quality I am after in this case, not quantity. If I was selling milk to the good people here in the city I would not keep a Jersey, but would keep the cow that would produce the largest quantity; that is what the milkman is after. He does not care for quality,—quantity is what he is after; milk is milk, and he gets the same price regardless of quality. If I lived in a community and sold my milk to a creamery or cheese factory, where they do not care any more for what they buy than to pay Smith, Jones and Brown and all the other patrons the same price for milk, regardless of quality, would keep the cow that would produce the largest quantity of milk.

Some people hold to the old-fashioned idea that milk from one man's dairy is just as good as that of another and should therefore receive the same pay. There would be as much reason or sense in it as there would be in a man going to a public sale and paying the same price for one cow as another.

No man will dispute for one minute that there is not a great difference in cows and their worth, but when it comes to milk, why think because all milk is similar in appearance, that there is no difference in quality.

I am glad to find that the majority of factories are now buying milk by the Babcock test, that reliable and praiseworthy little device, that has done more to make the average dairyman honest than any other invention that was ever invented.

The old-time way of determining the profitableness of a cow is still being practiced in many parts of the country—the cow whose yield of milk was large in quantity was regarded as the paying cow, while those that gave less milk but of much better quality were accounted unprofitable and accordingly discarded. We say this method is still practiced, but fortunately the rank and file of dairymen are coming to the light and do not measure the value of their cows as producers of butter by the quantity of milk they produce, but by the quality.

In our factory in Winnebago, where we pay all patrons by test, for the month of November the patron having the highest test received \$1.42 a hundred. The patron receiving the least amount received 89 cents, a difference of 53 cents a hundred; and still some men hold to the old way and say one man's milk is just as good as his neighbor's. In this case one patron would have received 38 cents a hundred less than his milk was worth, and the other would have received 15 cents more than it was worth.

For the month of December the patron having the best test received \$1.59 a hundred, while the lowest received 99 cents, a difference of 60 cents a hundred. The higher the price of butter the greater the difference between the price of poor and good milk.

I do not mean by poor milk, milk that should not be taken in at the factory, but mild that is lacking in butter fat; and as I said at the beginning, the dairyman must choose a herd suitable to his business and to his fancy.

Next in importance is the cow's feed and care. The question of feeding dairy cows in such a way that the owner can realize the greater profit from food consumed is one of vital importance; it is only by reducing the cost of production that reasonable profits can be made. The dairy cow is an animal for the conversion of food into milk, and if you wish to get the best results from the food the cow eats, you must keep her quiet, contented and comfortable; do not make the cow the farm scavenger if you expect her to be profitable. Better buy a small flock of sheep for that purpose; they will get fat where a cow can not get a living. In the summer time give her the best pasture, with plenty of pure water and good shade; treat her with kindness and she will repay you for all your trouble. In the winter time do not turn her out in the cornfield in bitter cold weather, where she will shiver with the cold, hunting for food, with nothing there for her but old dry stalks, with comparatively no nutriment in them, but instead keep her comfortable—keep her in the barn, feed the best of hay, grind her feed, and above all things do not ask her to go to the ice tank to drink.

We hear men frequently say and say it with considerable emphasis, "my cows do not pay for their keeping; they are eating their heads off, so to

“speak,” and I agree with them; I could not do otherwise conscientiously; their cows do not pay expenses the way they are kept. I have often wondered at some of the patrons of our creamery; they need not tell me their cows do not pay; any observing man could tell that.

Let us look for a few moments at one of these herds that do not pay their way and see where the trouble lies. In the first place there is not a cow in the herd that a good judge would call a fair cow; this dairyman does not believe in high priced cows; he goes to sales and when his neighbor pays \$40 or \$50 for a good cow he will wait until the last and pay \$20 or \$30 for a scrub cow and will tell what a cheap bargain he got; yes, she will always be cheap, but a dear bargain to him. This is the class of cows he keeps; he turns them out in the fields to hunt their living no matter what the weather is; they come to the tank to drink, and one would think from the looks in and around the tank that the owner was under contract to supply some ice company with their season's supply of ice; they are forced to drink here and then are put in some cold shed, with the wind blowing through the cracks, the window lights out, if there ever were any, and probably the door partly off. They are fed, as I have seen some dairymen feed that pretend to be dairymen—go to the corn crib, break up the ears of corn some and place it before them; the best hay must be baled and sold, so the cow has to finish her rations on what is unsalable and what is more likely to be unpalatable. This is the kind of dairymen we hear complaining about the cow; they blame the creamery and the creamery manager and the directors; they blame the price of butter and they blame the butterine men, and they blame every one but the right person, and that is themselves.

How about the successful dairyman? Ask him how he is getting along and he will tell you very well; he has no complaints to make. He has the best cows that can be raised or bought; he has a good warm barn for his cows, on cold and stormy days his cows never go out of the barn only to drink. They are not asked to drink ice water. Their grain is ground for them, they have the best of hay and fodder the farm produces; they are treated with kindness, fed and milked regularly and are making their owner a profit.

In the township of Winnebago, there are three creameries, one situated in the village, one about three miles, and the other about four miles out.

In our factory in the village last year we received 5,358,000 pounds of milk and paid the farmers \$43,450.00 for the same; not a bad business for one factory; this is about an average of what is paid every year. While all of this milk is not produced in this township the greatest portion is, very little comes from outside the township; and I might add here that double the amount might be produced in this township to a good advantage.

How to dispose of our milk to the best advantage is of the greatest importance and depends entirely how we are situated. The private dairy has been almost consumed by the creamery, and in this section of the country outside of what milk is taken to supply the city of Rockford the greater portion goes to the creamery, either in the shape of whole milk or gathered cream; and the time is not far distant when we will be called on to send our milk to Chicago, they are now taking large quantities of cream, a new industry for this part of the country, and is only a forerunner of what we may expect.

If I lived near a creamery I should take my milk to the creamery; if I lived near a condensing factory, would take my milk there. If I lived near a large city and could sell my milk to a reliable milk dealer I should do so; or if I lived a long distance from a factory and could not deliver my milk without too much expense, I would purchase a hand separator and sell the cream. From what I can learn there is no great difference in the selling of milk to a creamery, cheese factory or to the milk dealer, each has its drawbacks. The butter factory is governed by the price of butter, the cheese factory by the price of cheese, the milk dealer by the supply and demand. One advantage the dairyman has who takes his milk to a condensing factory is that he knows six months in advance what he will get for his milk. We must govern ourselves by the locality in which we live, make the best of what we have, and by keeping a good dairy we may surely expect success.

THE FAMILY COW AND HER OWNER—THEIR PROSPECTIVE RIGHTS.

Read at the 16th Congressional Institute by C. L. Stoddard of Carlinville, Illinois.

We read that "civilized man can not live without cooks." Neither can he live without cows. The wandering Arab may drink mare's milk, the Laplander the milk of his reindeer, and the rude mountaineer be satisfied with the milk of goats. But wherever fertile fields wave with golden grain and clustering orchards mark the site of prosperous and happy homes; where cities rise and mills and factories whirl and hum like giant bee hives; where "railway trains flash back and forth weaving the splendid fabric of a nation's commerce;" where schools and colleges multiply and the intellectual life of the people is quickened; where the arts and sciences flourish and the genius of man lightens labor and bids the oppressed go free; where family and home are more than mere words; there milk and butter of kine will be found in the homes of the people, and the low of the family cow will be heard in the land.

It is in the rural districts, upon the farms and in the villages and smaller cities that the family cow is found in the greatest number. Carlinville calls itself a city, has waterworks, paved streets, electric lights, telephones, a high school and a college, a court house that is far famed as one of great price, a mayor and board of aldermen and many other useful and ornamental institutions. The bell of the milkman has long been heard in our streets and creamery butter sold in our stores. But last year the assessor found within the corporate limits of our city no less than 200 cows. These figures are reliable. We may use round numbers in speaking of our population, but we are in the main a truth-loving people and were never known to boast to the assessor of more cows than we actually possess. Even in our large cities the family cow bobs serenely to the surface of the surging tide of humanity that ebbs and flows through the crowded streets, and will be found helping to keep the wolf from the door in the stable of a Mrs. O'Leary, or with a pedigree as long as your arm and a record for milk and butter that sounds like a fairy tale, calmly chewing her cud in the palatial barn of a Vanderbilt. The luxury of the rich and the necessity of the poor, she is the benefactor of all. That so important a factor in the economy of the home has rights, needs no argument. First of all she has a right to a suitable and creditable ancestry.

The general purpose cow may not always be a "no purpose cow," but she is not the highest type of the family cow, while one might as well expect to find a "Brahma rooster growing upon a cornstalk" as to find a good family cow whose ancestors have for generations been bred and fed for beef alone. The final test of the family cow is the amount of milk and butter she will produce. The best test of the heifer that is to become the family cow is the amount of milk and butter her mother and her grandmothers have produced. Kind treatment is another right of the cow. Not long since a writer in one of our farm papers recommended an empty varnish can as a milking stool, one of its merits being that it could not be used to make punctuation marks on the back of the cow. (It is written that water has gushed out of a rock when it was struck, but whoever heard, saw or read about anyone who could hammer milk out of a cow.) You may hammer milk out of a cocoanut but a cow "isn't built that way." A comfortable stable in winter and pure water and shade in summer are also rights of the cow. Happy is the lot of a cow whose owner has a woods pasture in whose shady recesses she can, during July and August, escape from the torment of heat and flies. During these months she should be left in the pasture at night. She will graze from four till nine at night and again in the morning if you will milk at four and get her up and at it.

In a corner of my memory there lingers this bit of Mother Goose melody:

"There was a man who had a cow,
And had no hay to give her,
So he took his harp and played this tune
Consider, cow! Consider."

This tune that the old cow died on has been re-played many times by men who have expected their cows to consider questions that should have been considered for them, for the cow certainly has a right to an ample supply of milk-producing food.

Blue grass and clover pasture in summer supplemented by cornstalks, soy beans or cow peas in the drouthy times, when the pastures are burned dry and brown. For winter the nearest approximation to this obtainable, viz.: clover, soy beans or cow peas, corn-cob meal, oats, bran, shipstuffs and any succulent food, such as pumpkins, squashes, sugar beets, etc., fed in proportion to form a balanced ration. Remembering that the proportion often differs with different cows, and varies with the same cow. Also keeping in mind two factors not usually included in the feed tables, the cost of the material used and the value of time spent in preparing the mixture. Variety spices life and gives tone to the appetite of cows.

Every cow is entitled to an annual rest. That she should be dry for at least one month is good for the cow, her calf and her owner. The drying process should begin at six weeks before she calves and should occupy from one to two weeks. The treatment being exactly the reverse of that she ought to receive when giving milk, i. e., she should be scantily fed on food not calculated to stimulate the flow of milk, such as timothy hay, and should be milked irregularly, part of the milk being left at each milking. If the cow calves in the spring and is on fresh pasture as a choice of evils, she should be milked continuously or her owner may be minus a cow lost by milk fever. The calf of the family cow has rights, too, and ought not to be knocked in the head with the churn dasher either before or after it is born.

The man who accords kind treatment to his cow and provides for her wants has a right to treatment in kind. The kicking cow, have you ever milked her? "Lay thy hand upon her, remember the battle—do no more!"

If her udder is inflamed or her teats cracked and bleeding she has a right to kick and ought to kick hard until her owner takes the hint and applies vaseline to the sore spots. But if she kicks just for the fun of it, because she wants to and has become confirmed in the habit, the sooner she "kicks the bucket," figuratively as well as literally, the better it will be for all. Her owner certainly has a right to get the milk for his family without having to summon courage enough to storm San Juan hill or being tempted to roast the offending animal with heated anathemas while she is still on the hoof. He also has a right to expect his cow to remain within the bounds of a lawful fence. The breachy cow! If you haven't owned her your neighbor has. One is enough and too many for any neighborhood. It is an old adage that poor fences make breachy cows, so fix your fence first and then insist that the cow stay in or out, as the case may be. Some cows seem to be lineal descendants of the cow that jumped over the moon and still "keep her memory green." If yours is such a cow, speed her away to the slaughter house and peace will spread her wings over your home and your neighbors will rise up and call you blessed.

The safety of children and the comfort of other cows kept with her require that the family cow should be dehorned. When I go out these cold mornings and find my three Jerseys nestling together in the stable like so many sheep, I can not but feel grateful to the man who nipped their horns in the bud when they were calves. Dehorning may seem cruel to some but progressive farmers agree that horns are a relic of a barbarous age and a nuisance that ought to be abated wherever found, whether it be on a Texas steer, the Satan devil, or the family cow.

Finally, every owner of a cow has a right to expect that she will give him a sufficient amount of milk to pay for her feed and a reasonable compensation for the time and labor expended in feeding and caring for her. Wherever a cow is kept, whether it is on a farm, in a village or in a city, her owner should find whether she is his servant or he hers. The mere matter of convenience of having an ample supply of pure milk, rich cream and pure butter counts for much. But over against this stands the inconvenience of having to milk more than 600 times in the year and feed and clean stable half as many more, which, added to the cost of the feed consumed, will balance quite a large milk and butter account.

Does your cow pay her way? If you don't know, find out. If she does, keep her. If she don't, sell her. Much more might be said on this point, but this is intended to be suggestive rather than comprehensive and I will not tax your patience further except to tie these thoughts together with a bit of string.

In days long gone by, when the first "prairie schooner"
Foiled over these plains, then untouched by the plow,
At the rear of the wagon, worn out with the journey,
Lean, hungry and footsore, limped the family cow.
Through the years that have passed she has faithfully followed
The fortunes of those who have owned her, till now,
Adorned with ribbons of red and of purple,
At ever fair struts the family cow.
May her pasture be green—may her ration be ample,
Let posterity rise and make its best bow
To the stay of the household—the nurse of the children—
Prosperity's herald—the family cow.

BETTER BUTTER, BETTER PRICES.

By W. H. Stephenson, Jacksonville, read at 16th District Institute.

In no branch of farming is there such waste and short-sightedness as in dairying, carried on as it so frequently is, in darkest ignorance and with a vast amount of misapplied labor, and that too, of a very indifferent character. Dairy farmers all over the land, are toiling early and late and yet many of them cry out in their dissatisfaction that their reward is pitifully small; aye at times they confess that failure has engulfed them and they ask in all earnestness, Is there no way of escape?

There is a way, we reply. Written over the entrance thereto in enduring characters are four words. "Better Methods, Better Butter," the dairyman's pass words.

In this paper we desire to offer hardworking, practicable farmers a few suggestions which will aid them to increase their incomes, multiply their comforts and better their position.

We desire to tell how the butter may be made on the farms of Illinois which in quality will equal the product of the best creameries and dairies and which will sell for a satisfactory price. It is not impossible to make choice butter on the farm. It is not even so difficult an achievement as many of us are prone to believe. Therefore let us take courage and press boldly on, placing our confidence, not in worthless methods, nor in careless and slovenly habits, but in a well founded determination to study; to do excellent work and to make a choice article which will bring a goodly price because it meets the demands of the market. This is the goal toward which every true butter maker should be constantly pressing, but there is no short cut which leads to it. Thoroughness is demanded at every point and thoroughness never means a short cut.

You dig a great reservoir with a capacity of several million gallons, let in a little brook with the course of a few miles and you will have at the most a few inches of muddy water. The stream which is to fill the receptacle, must have miles of tributaries, fed by innumerable mountain springs, until when it reaches the flood gates it pours its sparkling water into the reservoir and fills it to the brim. Thus the difference between the unsuccessful dairyman with his short-sighted, out of date methods and plans and the successful one, who reaches out and searches for truth in every helpful avenue of thought and endeavor that he may enter into his work with brain and hand trained to the highest point of efficiency.

As we take up this discussion of butter making on the farm let us say that it is impossible to give any fixed rule. Atmosphere conditions must be taken into consideration and they are an ever varying factor over which it is impossible to have full control and there are various other surroundings which make

it imperative to bring judgment and common sense to bear upon the matter. There are certain important principles involved however, which doubtless will admit of a profitable discussion.

To secure the very best results in butter making, three things are indispensable, good milk, pure air and the most scrupulous cleanliness.

To obtain good milk healthy cows are required which give milk rich in butter fat as butter from 2½ and 3 per cent cows will lack in grain. The cows must be fed on good pasturage or on good sweet grain or other forage and have pure water to drink and pure air to breathe. If the cows are permitted to eat noxious weeds, such as wild onions and rag weeds and to consume rotten hay or fodder and mouldy silage, the flavor of the milk will certainly be damaged as it will also if the cows are in a fevered condition or for any reason are not perfectly healthy. When cows are nearing the end of their period of lactation special attention should be given to detect any bad taste or flavor in the milk and when present such milk should be discarded at once as that of one cow may prove sufficient to absolutely spoil an entire churning.

In a close, crowded, and illy ventilated stable, the air is soon vitiated by the presence of the animals and affects not only the milk, but also the health of the cows. A remedy is to be found in providing a sufficient number of cubic feet of barn room and an adequate system of ventilation. Daily care must also be given to insure clean stables—a condition which can be assured only by the adoption of the modern methods of confining cows; the use of an abundance of bedding and the regular removal of all the manure.

Care in milking is essential, attention be given to thoroughness and absolute cleanliness. The latter point can best be attained by thoroughly cleaning the udder and the flank of the cow with a brush or a cloth, thus removing particles of dust and other substances which are such potent factors in the contamination of milk. As soon as drawn, the milk should be strained and removed to the dairy, where it should be passed through a cloth strainer. This straining is essential, for it is one of the important steps towards securing cleanliness—that cardinal factor in successful dairying without which, though the best breed of cattle and other conditions of the very best may be at hand, there can be no result other than failure.

Every endeavor to keep milk free from dust and dirt and foreign substances is of the utmost importance, for when we study the effect of dirt upon milk, we find that it is not the dirt itself but what it contains that is detrimental to milk. This content has well been called "invisible dirt" and is simply the bacterial life contained in the dirt particles which enter the milk after it has been drawn from the cow. Inasmuch as milk is such a perfect place for the propagation and multiplication and for the injurious action of these infinitely small germs, it behooves the butter maker to keep them out his milk as far as is possible.

For the reason that these germs are invisible, many dairymen fail to clean their dairy utensils as they should. They think that if their pails, cans, etc., are free from visible dirt, that they are in fine condition. But very frequently they are not. The bacterial germs have not been killed and consequently there has been provided in these milk utensils a place where germ life may have unbounded opportunity to contaminate and work lasting injury. Dairy utensils often should be washed, first in cold, then in hot water and after that thoroughly scalded with boiling water or steam, and placed in the fresh air and if possible, in the sunlight.

When good clean milk has been secured, the next step is to separate the cream from the milk. There are three systems for accomplishing this, namely shallow setting, deep setting, and the use of centrifugal force—the so-called cream separator. When shallow setting is practiced, the milk should be set as soon as possible after it is drawn from the cow. The room should be provided with such a system of ventilation as will insure pure air and a temperature not much above 60 degrees.

The best time to skim is when the milk has soured just enough to begin to thicken at the bottom of the pan, and the cream can be removed without much loss by reason of mixing with the milk. When held at a low tempera-

ture, the cream of several skimmings may be held for a churning provided that every time fresh cream is added to the can, the contents are thoroughly stirred.

With deep setting good results are obtained when the cans are placed in water which is held at a temperature of about 40 degrees or even 50 degrees. If flowing water is available, a somewhat higher temperature will prove effective. The cream may separate in 12 hours but we think a longer period is advantageous in order that the cream may thicken and thus be skimmed with greater ease and thoroughness.

The farmer who uses a separator, however, has the best and most economical method of separating. This fact has been repeatedly demonstrated by the increased amount of butter made when the separator is used and the greater value of the skim milk for feeding calves and pigs.

As a result of a long series of experiments, Mr. Goodrich says "that it seems impossible to escape the conviction that the average loss where the milk is set in pans, cans and crocks is three-fourths of a pound of butter more to each 100 pounds of milk than where the separator is used." This is a percentage of loss which certainly no wide-awake dairyman can long afford.

Cream from the separator is warm when it is separated immediately after the milking, and the "animal heat" must be removed at once by aerating and cooling. The cream may then be held in cans placed in cold water at a temperature of 50 degrees or less.

When the time comes to ripen cream for churning, it should be placed in a vat or can and heated to a temperature of 65 or 70 degrees. A starter should then be added and the cream held at an even temperature of about 70 degrees in a room where the air is pure and free from all odors which might reappear in the butter and give proof of ignorance or carelessness on the part of the butter maker. The cream should be lightly stirred several times to insure even ripening. The starter may be some fresh skim milk, which has been kept at a proper temperature until it is sour, or it may be some ripened cream or buttermilk. We usually use about one pint of starter to 5 gallons of cream. The best way to temper cream is to have a large can, a good dairy thermometer and a long wooden paddle. Fill the large can half full of hot water, set in this the cream can and stir constantly until the desired temperature is reached. Experience alone can decide when the proper degree of ripeness is reached and the cream is fit for the churn, but by careful watching it is nearly always possible to fix upon the time with a reasonable degree of accuracy.

The day of the dash-churn and of those with paddles and inside fixtures is gone. The best churns are those which revolve or swing, such as the barrel churn, square box churn, etc. The churn should not be filled more than half full and a third is better. Before it is used, the churn should be scalded with hot water and rinsed with cold water. The cream should not be strained into the churn until it has been brought to the proper temperature, which is usually from 56 to 62 degrees, although there are times and conditions when the extremes may be wider. The most exhaustive churning is possible when thick, rich cream is churned at a low temperature. The churn should be revolved until the butter is in granular form, the granules being about the size of wheat grains, and then stopped for a few revolutions, too many may break the grain and cause the butter granules to adhere to one another and form large lumps. A handful of salt may now be added to the contents of the churn. It will cause the butter to float and thus permit the buttermilk to flow readily from the churn. The butter should then be washed with clear, cold water, so as to keep the granules from adhering to one another and to free the butter from all traces of buttermilk. Too much washing is not desirable, as it has a tendency to injure the delicate flavor. If the butter is too hard in winter to work, it should be washed with water tempered to 62 degrees F.

Dairy salt of standard quality should be used and may be sifted on the butter in the churn. A better way, however, is to weigh the butter when it is taken from the churn and placed on the worker and add to it one-half to one ounce of salt for every pound of butter. This method insures butter of an even degree of saltiness. Work the butter thoroughly, but just enough to

incorporate the salt, and put the butter in a solid lump of even texture and color. There should be no streaks of white to be seen when the butter is cut with the ladle and held to the light. This mottled or streaked appearance is an evidence of improper or insufficient working. White and specks are caused by too sour cream and can be prevented by straining the cream.

When the butter has been thoroughly worked it is ready to prepare for market. Whether you roll, print or place in some style of package. Use a package to suit your trade, but be sure that it is neat and clean and pleasing to the eye. If you want to succeed look well to these small things.

If you print, use a handsome print, with your monogram or other attractive impression on the top. Give full weight and wrap each print up separately in parchment paper or thin white cheese cloth. When prepared thus butter is easily handled and presents a most pleasing appearance and an important factor in gaining and holding the best class of customers.

Have your name printed on the parchment wrappers and on all boxes and packages, and if the butter has been made as we have directed and have actually practiced for nearly a half score of years, you will command a large and paying business; your name will be a guarantee of high quality and of intrinsic worth, and when your butter has won its way to favor, because of its superlative individuality, and butter has individuality as much as persons, you will find it difficult to meet the demand and, believe me, the price will be highly satisfactory.

True, this is not the work of a day, but patient toil and perseverance will, in the fullness of time, reap their just reward.

Better methods; better butter; better prices.

The three great triumphant factors—mighty to save, to enrich, to ennoble, diligent dairy student.

A PLEA FOR RURAL DOMESTIC SCIENCE CLUBS.

Read at 19th District Institute, by Mrs. Harry Grundy, Morrisonville.

Only recently have some of the women in the rural districts of our fair land awakened to the realization that there is a great work for them to do other than ceaseless toil. All over our own, and, in fact, all civilized lands, we find women banded together in some sort of organized association for their own improvement and that of society.

One of the most important of these organizations, perhaps, is the National Congress of Mothers, which held its third annual meeting at Washington, D. C., last February. Another of almost equal importance is the National Council of Women, an organization composed of representatives from many organizations throughout the country, having a great variety of purpose, but all looking to the betterment of society and conditions which surround it.

North, south, east and west, in all the towns, villages and cities, they have some sort of club or association for self-improvement and recreation. Shall we farmers' wives, mothers and daughters let the tide, now at its flood, ebb and not avail ourselves of the opportunity to move right along in this great and grand current?

Two years ago at the annual meeting of the Illinois Farmers' Institute held at Champaign, Ill., a State Domestic Science Association was organized, and as the association was intended more particularly to reach the farmers' wives, it was thought that the object could best be attained by organizing county associations in connection with the County Farmers' Institute, and constitute a part of such meeting. So far as was known by the State Secretary at the time she made her report there were twenty county associations and returns from fifty indicated that the germ was in the air, and doubtless by this time they have organized and are reaping a good harvest. But we find that the county association does not reach the ones who need its help most, as many of the farmers' wives can not be spared from home to attend the county Institute. Their children are too small to leave at home and

the weather and roads are often so bad it is impossible for those who live in driving distance to come in for even one day. However there are exceptions, and we have had young mothers and their children meet with us sometimes, but for one session only, as the mothers were needed to keep the home together and the children in school. The husband would attend perhaps all of the time, but he would be more interested in the papers and discussions on topics relating to his farming business and could not give his wife a very good report of what was said that would be of such great interest and help to her. So it seems we need some sort of organization whereby we can meet this great want. Local clubs can do for such women much, and their names are legion. They are all over our country. If there could be one club organized in each township it would be a help; but one in every school district would be better. I urge and entreat you to form associations right away, so you can enjoy the meetings all through the remainder of the winter, and get under full headway by summer. These local clubs need not mean a literary society, nor a scientific course of reading, at least not at first.

We need to meet together and find out how many in the neighborhood feel the need of such an organization, where they can meet once in two weeks and try to cultivate an elevating sort of social life that will interest the overburdened and isolated ones of the community, in the guise of diversion and entertainment. Make the meetings as informal as possible and have some topic that will be of interest to all and try to get each one to express herself on it. If only two or three meet together, organize, and you will soon draw others to you. Our club organized with a membership of seven—now we have thirty-six.

I sometimes feel discouraged when I see so many women who are the ones who really need the help and sympathy and encouragement the association could give them, hold back with that apathy and inertia that is almost appalling. They need the association most and yet their attendance is the most difficult to secure. The efforts of our county and local clubs should be directed toward securing their attendance. We have passed that period when house-keeping and home-making are done by "main strength and awkwardness." We need active, wide awake, thinking women, who can see and adapt themselves to any new and improved methods of doing their work.

Such clubs would do as much toward settling the question of how to keep the boys on the farm as any discussion at the State or County Institutes; for the boys could meet with our local clubs, for these associations are not secret societies, and we are glad to extend to the boys and men a hearty and cordial invitation to meet with us as often as they can.

There is another question that comes to us now, and that is how to keep the girls on the farm. A young man, a graduate of our State agricultural college, said to me at our county Institute last winter, "Mrs. Grundy, can you tell me where I can find a young woman?"—perhaps he said "lady"—"who would be willing to commence life as a poor man's wife, as you did, and help one build up a home, and neither be afraid nor above the work that has to be done on a farm. I am ready to start out now and put my education to some practical use. I like farming and I know how to farm. Where can I get a helpmate?" I told him I was so sorry I had no girl left or I surely would want her to have just such an earnest, energetic, practical man for a husband; and I told him that the girl we did rear was just the kind that make good farmer's wives, but she was filling just such a home as I hoped he would soon have, and that I thought there were more if he could only find one. But the facts are that most of the girls who could fill such a home prefer to go to the towns and cities and be stenographers and "hello" girls, or even waiters at hotels or clerks in stores and "are taken up with the cheap attractiveness of town, and flout the independent young farmer for the hostler in a livery stable to get to be where there is something going on."

Now, the aim of these local clubs is to have something going on in the way of recreative diverting entertainment. That is what country women most need at present, and they will get some instruction out of it as well. One of the pleasing features of our local club is the social gatherings in the evenings where the members and their families, meet for social amusement. We have a short program of music, recitations, short speeches and singing.

Then have some light refreshments—ice cream and cake for the summer, and games out of doors for the younger ones, and social chat by the older members in groups about the lawn and in the house; in winter there could be, after the literary program, many interesting and amusing indoor games, of which there are so many. We hold club meetings at the different houses in the neighborhood. If we could have some central point where we could meet we would have better attendance perhaps but that does not seem practical just now.

We have been asked many times by men who are inclined to criticize and ridicule, what domestic science, or domestic economy means, and what we of this association hope to gain by it; "don't we just meet and pass the time in frivolous gossip?" Then we think inquisitiveness is not wholly woman's prerogative. We are too anxious to learn something higher, nobler, broader and better than to indulge for a moment in idle gossip. However, we are glad to know they take interest enough in this, to them, new movement, to inquire about it. Mrs. Kedzie says—and she is such good authority on this subject you will pardon me for quoting her—that "Domestic science or domestic economy is not simply cooking. It is not simply serving any more than farming is simply raising cattle. The care of the cattle is a very necessary part of farming, I grant you, but merely raising cattle does not make a farmer, nor does the ability to cook make a thorough housekeeper or homemaker. Being able to scrub and clean is essential, but is not sufficient to enable a person to make a perfect home. All of these matters must come together in order to make up domestic economy. For domestic economy in its broadest sense means home-making—knowing how to make a home. We call it domestic economy because it is training for domestic life, which is truly woman's world. It is the best world into which a woman can step."

Could we ask a broader or better definition?

We older people who came here when there was nothing on these broad prairies but native grass, rosin weeds, rattle snakes, chills and fever, swamps and bogs, had our hands full. We often knew not how to meet the demands made upon us. Some of the older men before me could give you an experience that would be a revelation to many of you younger men who came onto the stage after the country was subdued and improved. No post office, or mill, or blacksmith shop, or physician within fifteen or twenty miles, and over a trackless prairie. Think for a moment of the amount of work it took to dig the wells, build the houses and barns, plant the orchards and groves and hedge fences, and make the roads and bridges and build the school houses and churches and railroads, and I might go on and enumerate many other things that filled our lives so full we had very little time for cultivating our minds, or to study the easiest, and best way of doing things. We, like Enoch Arden, could endure all sorts of hardships and privations if we could only make it less hard for our children. We were the brawn, the younger generation must be the brain; they having a broader education and a higher civilization. We can not enter the university and take a course in domestic science, we could not have done so forty or fifty years ago if our parents had been able at that time to have sent us, for there were no such schools in the State at that time, and the district schools, like angel's visits were few and far between. We can not take the time now to learn all we should like to know, but we can meet together once or twice a month and feel the stimulus of others' ideas and exchange experiences and try to learn the best way of doing things, and that means the quickest, so we can have time to cultivate our minds and not be dubbed the "new woman" either. I do not like the appellation.

Eventually we hope to broaden out less to our little home duties and more to books, and study something of the food value of meats and vegetables, and the best modes of preparing them to make them most palatable and most digestible for food.

Briefly, domestic science means to us the ability to make better homes, ability to rear stronger and healthier boys and girls by giving them well balanced food rations, clean, well ventilated rooms, cheerful surroundings and happy surroundings. Ruskin has said: "There can be no happy

thought without labor, and no healthy labor without thought." We hope to attain, through the pleasant pathway of our Domestic Science Association, higher thoughts and nobler impulses and greater knowledge in the art of home making to encourage and help one another and to cultivate ourselves. These and various other things we hope to learn.

"Thus may our efforts find success
From a beginning weak;
New friends rise up and courage take
At every word we speak,
Till step by step, and inch by inch,
Our cause shall grow and spread,
That coming generations
May be wisely clothed and fed.
That homes shall reach perfection,
And our farthest goal be won;
While the future reaps the harvest
Of our work so well begun."

I plead with you to organize these township, or neighborhood, or school district associations. Farmers' wives and daughters do not get that worldly wisdom that comes from contact with the world like those who live in the towns and cities. These associations would stimulate the mental activity and self confidence and would help to break that monotonous treadmill sort of existence that at present envelopes the lives of most farmers' wives. Organize right away. Their influence is so broadening and uplifting you can not afford to be without them.

CHILD TRAINING.

By Mrs. Robert English, Marshall, Ill.

MADAM PRESIDENT, LADIES AND GENTLEMEN:—I wish to thank the executive committee for the honor bestowed upon me in giving to me the subject of "Child Training." Indeed, it seems to me that it's the most important subject on the program, as well as the most neglected one. I would rather have written on any subject than this one, but as I have a very warm place in my heart for children and so often feel sorry for them on account of over indulgence or neglect on the part of parents or teacher, I concluded to do the best I could with the subject for fear it would be omitted entirely from program.

This subject is a broad one and can not be discussed in one short article, and as Woman's Day is crowded into one short forenoon and this time is to be occupied by three women, all of which are blessed with woman's failure, and we are also expected to allow time for discussion too. So I have abridged all that I could and omitted many things that I should like to have said, but perhaps the omitted ideas will be brought out in the discussion that will follow.

Therefore, you will only hear from me the A B C part of "Child Training."

Child Training generally begins with the babe's first conscious movements, though an exhaustive treatment of the subject would include its prenatal life as well. It is often thought that the first year or two of life is such a vegetative period that any moderately decent person may supervise the uninteresting infant past the staring, drooling stage.

But this is a mistake and the little one should not be handed to a nurse with the instruction "raise it on the bottle." The human infant is to be sure, usually born deaf and blind, and is divided at first by the wall of its inert senses from the world it enters. Our progress from simple living to our present state has increased the obligations of motherhood. The more dangers threatening, the greater necessity for watchfulness; the more highly strung and sensitive the child, the more need for an exercise of mother's care to ward off everything liable to disturb nerves so finely attuned that a slight jar may cause a lasting shock.

We can not too often remind ourselves that nothing is trivial which affects the child and that children are not a different species but only ungrown men and women, with faults and virtues like our own; subject to moods, full of eccentricities, and in need—as we ourselves—of a judge like the one craved by the Irishman; one that will not be overstrict, but will “lean a little.”

We still unhappily hear of breaking a child's will, but I hope the expression is only used by very narrow or ignorant people. A child's will must be trained, strengthened and not “broken.”

Unfortunately, people do not possess enough imagination to put themselves in a child's place and feel as he feels and see as he sees. It is not what a child ought to do from his own point of view, but he is expected to take the adult's point of view (often with but little if any explanation) and act accordingly, or have his will “broken” by the rod. This must be very difficult for a child, for grown-up people often fail to appreciate another's point of view.

If a child is born with a clear, strong, though child-like perception of things, and yet is constantly compelled to surrender his will, his will is weakened. He is being made unfaithful to himself. He may, however, yield an outward obedience, and thus the germ of conceit and cowardice are implanted. If he yields his will through fear, it is indeed broken and most brutally; if through bribes, the results are just as bad.

If a child yields his will through love the effect is entirely different, for he wills to give up his will for the sake of love. If we were more imaginative, and less “set in our own way,” children would not seem half so wilful—the bugbear of parents and teachers. If we could get into the child's place for awhile we might see the injustice of requiring him to follow our will in just the way we think best. Many a youth is alienated from his father's house because his father does not understand him.

There are several reasons for wilfulness in children. One is where the child thinks he is right, although to a mature mind it is evident that he is wrong, and he insists on acting according to his light. The child is not urbane—he has less of civilization and more of nature. He does not, like a man, excuse himself urbanely, but frankly, even brutally, speaks his mind. He tells the truth and is called “naughty.”

Again, a child is wilful when he knows he is wrong but persists in having his own way. Then there is the child who, having determined to pursue a certain course, will not “back down.”

How can the self-willed child be trained into a rational one? How is his incorrect point of view to be changed into a correct one? Well, we must first find the *real* child, his point of view, his motives, his reasons as far as he has any, the cause of his impulses. We need to realize that what we conceive to be wrong often is to the child perfectly right. Without this understanding of the real child all will-training is a failure.

Little good can come of being arbitrary with a child, by making him do as we wish without first getting at the cause of his wilfulness. Some put implicit faith in reasoning with a child. Well, it shows respect for child-nature and sometimes reaches him; at least it may have some effect in developing his reasoning power, and certainly promises confidence between parent and child. If his reason were already developed there would be less difficulty in training the will; but since it is not, we must train the will through different avenues, and his feelings, his emotional impulses, form the best of these.

The little child-heart is full of love, and surely Nature, who has given us such an example of the sequence of her working in “First the blade, then the ear, after that the full corn in the ear,” meant us to use love in developing the child character, until the reasoning period is unfolded, through his affections.

But if we do succeed in dealing with the child's wilfulness at any one time, let us not be afraid to acknowledge we were less wise than the occasion demanded; another time we will do better. Training children is so great an art that with every desire and effort to get proficient in it some mistakes are almost unavoidable, and we must not be discouraged by them. I repeat, make the child's life pleasant to him, its duties inevitable, and we will find obedi-

ence will follow our just demand of it. Do not ask of a child tasks beyond his strength. Remember his weakness and that every power and virtue in him is necessarily feeble; if we do not apportion his trial to his powers we deserve defeat and run the risk of injuring the growing goodness of the little one. When it is hard for him to give up his will to us, let us encourage him by loving approbation; let him feel the sunlight of our love in his struggle to do right.

The writer, having had the opportunity of working with many little ones from many different homes, has learned from observation that more than 90 per cent of the early training of children has fallen to mother's share. Finding this true we are led to ask, why don't fathers share in the training of their children as much as mothers? Some will immediately say: we haven't the time; procuring a living and other pursuits occupy our time.

One reason I think why fathers do not share in the training of their children as they should, is due to the fact that men despise trivialities, while a woman's life is composed of them. Sometimes how trivial do the acts seem to be which are employed in moulding the mind of a little one? How many thousand little deeds does it take to lead from utter helplessness to take his place as a workman in the world to do God's work in his own way?

So it falls upon mother to prepare food and raiment. She must run to every fall and kiss the bruise. (But children are often taught to magnify their slight ailments by the pity they receive.) She waits patiently to listen to the prattling tongue trying to tell baby thoughts, and answers thousands of questions. She it is who makes the child's joys her joys, its sorrows her sorrows.

Is it any wonder that mother's name is sung and praised while father's is rarely heard? Our land is full of good, noble fathers, but there are some not worthy the name. Fathers in many ways are debarred by circumstances in sharing the training they should, yet many do not do all that lie in their power.

It appears to me that there is no other subject concerning children that needs more study and thought than this. It is a great mistake fathers make in depending upon the mothers entirely for the training of the children. The father who is generally away all day don't think of the cares of the household the poor wife and mother has gone through. He don't think it would be better for him to take her place along that line and give her mind a few hours rest, instead of seating himself behind a newspaper to pass away a few hours with the latest politicians, etc. It's no wonder nine-tenths of the wives are broke down at an early age and not really able to do a day's work. Too much mental strain; too many cares placed upon their shoulders.

Fathers and mothers should unite in the training of their children. Frances E. Willard said, "Alone we can do little. Separated we are units of weakness. United we are batteries of power." Just so with the training of our children, one parent shouldn't want them to do one way and one another, and the child should never be discussed in his own hearing, his faults discussed in family conclave or the subject openly argued in any form, no matter in how admirable a spirit.

Fathers do without a few dollars and win the golden opinion of your children. Stop amassing wealth at the expense of the wealth of love of the little ones. Make yourself one of them, so when you give good advice they will lovingly heed it, so that your words may sink deep in fruitful soil and grow, for who knows how far your work may go in eternity. Take at least as much pains with your children's training as your business. They are far, far, far more precious than crops of wheat, corn or your favorite white-faced cattle, black-faced sheep or Poland-China hogs.

Now, me thinks I hear some one say, Why, we do take as much pains in training our children as in business matters. You do. Well, shouldn't you take more pains? Pardon me for asking a few more questions here. What was your object in coming to this Institute? Was you more interested in your child's training or in the cultivation of broom corn or cow-pease? or the making of good butter? Which subject did you mostly desire to hear discussed?

Now, not only the subject of child-training is neglected, but the actual training is sadly neglected. You have time for farmers' meetings, socials of all kinds, including church affairs and many other affairs, but how much time have you for your children? You take your church, farm, secular and story papers and books, but how many children's papers and books are found in your homes? You read all these papers and books perhaps, but how many of you ever read an entire book on child culture or even had the money to spare for such a book?

Again we hear so much about men's rights and women's rights, but how much do we hear about children's rights? Do you ever think of your children's rights? I would name first of all the right of being welcome. If you have ever, for the briefest time, felt that you was an unwelcome guest, you may form some idea of the unhappy disadvantage in which an unwished for child enters life and of the cloud that must darken all his days, if not imbitter his life. A sound mind in a healthy body, with good moral impetus is also a birthright to be secured to each child by intelligent thought and study of prenatal influences.

They have a right to restraining of wrong tendencies and the training of right motives. They have a right not to be dwarfed, or hampered, or broken by ignorant or unkind treatment. A right not to have their lives warped, soured or darkened by impure or unhealthful surroundings.

Children have a right to play, to a play time and place; to play things out of doors and in. Don't feel that the only, annoying thing in the house is the restless, noisy, growing boys. There must be some place where they can develop their many-sided natures. Don't have the woodshed too full for a workshop, or the kitchen too nicely scoured and polished for whittling or any boyish muss, nor the yard too nicely sodded that no one can run or play ball there. Play reacts on the child and helps to make him what he is. How then can any one overlook the importance of the child's plays? How can any parent or teacher fail to take an abiding interest in anything that the child attempts to do? The character of his play needs the same attention as the character of his food. Children's ideals and motives are constantly changing and methods of instruction and management must change with them.

Yes, they have a right to an intelligent provision for their physical care and growth, to activity that strengthens the muscles, and to diet and dress that secures health and comfort, and the ability to provide for these rights can not be readily acquired. Indeed, it means great patience, perseverance, tact, skill, time and study on the part of parents.

Children have a right to cheerfulness, kindness and gentleness; a right to freedom from care, worry and teasing; a right to individual tastes; the child's right to consideration is too commonly ignored; they have a right not only to considerate notice but also to a judicious amount of letting alone. They are not here to gratify our pride or to furnish us entertainment.

Each of us has lived in the child's world for a good many years and it may be but lately left it behind us. Nevertheless how oddly remote from us, how strangely forgotten are the joys and sorrows of that past time. But let us remember that the child has a right to a will, a way, a method, a purpose, a plan, an opinion so long as these do not stand in the way of the rights of others. Our study should therefore be not so much to control the child as to teach him self-control, out of which shall come all the best qualities of mind and heart.

MRS. ROBERT ENGLISH,
Marshall, Ill.

HOME MANAGEMENT.

Mrs. Lizzie B. Killian, St. Clair Co.

It may well be said that the three sweetest words of our language are "Mother, Home and Heaven." We may well pity that being so unfortunate as not to have enjoyed the blessing of a happy home, for in the battle of life we need to be armed with the counsels and prayers of a mother and all holy and sweet home influences if we are to successfully meet the trails and difficulty which beset us. Home is the paradise in which this wonderful world is first revealed to our growing consciousness, and as from its safe shelter we look out upon life, we form our estimate of it according to the impressions and teachings we there receive.

If the home is brightened with the sunshine of love, its radiance is reflected in all around us, and the whole world seems to us only one family, full of kind thoughts, tender sympathies, gentle ministrations, and noble deeds. The heart gathers its choicest earthly treasures in the home. Here the mind begins to expand and the character is chiefly formed. Home and its influences are most important in the building of a virtuous character, as well as in the production of the highest happiness.

Byron had a miserable home and a passionate mother, and his whole life was blighted and unhappy. There are many others who were equally exposed to temptation, but who resisted it because they were strengthened by the wise training and tender memories of happy homes.

In building a home we should not make a fatal mistake of spending all our time and exhausting all our energies in pursuit of wealth, society, honor or fame and forget that compared to a happy home all these are but vanity and vexation of spirit.

It is impossible to give any directions as to arranging and furnishing a home except in a general way, as there are endless varieties. Whatever plan may be adopted, we should bear in mind the two important factors, comfort and system. No matter how plain a home may be, it should be comfortably and systematically arranged. Undoubtedly the lady of the house does most of her important work in the kitchen, therefore there is no place in the house where sunlight and fresh, pure air are so indispensable as in this room.

A long, narrow, dark kitchen is an abomination. Always endeavor to furnish the kitchen well first, and if there is anything left for the parlor, well, if not, the money has been wisely spent. In the kitchen it is very important to systematize everything, grouping such things as belong to any particular kind of work and then keeping a place for everything. For instance, in baking do not go to the china closet for a bowl, across the kitchen for the flour and to the farther end of the pantry or store room for an egg, when they may just as well be in easy reach of each other. Study and contrive to bring order out of the natural confusion of the kitchen and the head will save the hands and feet much labor.

It is very important for the lady of the house to be well acquainted with the duties of the kitchen and know well how to go about the work. This ought to be absorbed by easy lessons taken between algebra, music and painting. If girls were taught to take as much genuine pride in sweeping and dusting a room well, hanging a curtain gracefully, or broiling a steak nicely as they feel when they have mastered one of Mozart's grand symphonies, there would be fewer complaining husbands and unhappy wives. Because the young housekeeper is able, or expects some time to be able to hire servants, is no reason why she should neglect to learn how to do kitchen work. Economy counts nowhere so well as in the kitchen.

Neatness, order and economy are the fundamentals to domestic happiness, and must be absorbed throughout the whole household in order that there may be real happiness. It does not take thousands of dollars and a costly furnished home to bring happiness. Indeed, these may add much to those who are at peace without them, but if the home may be yet so plain, if true love and peace prevail it is a happy home. Cultivate cheerfulness in the home if only for personal property.

Let your home be the nursery of truth, of refinement, of simplicity and taste. Endeavor to make it attractive to your children by every means in your power and lose no opportunities of improving their minds and cultivating their home affections. Remember that youth comes to us but once; that it is a season of golden hopes, of overflowing spirits and of joyful anticipations, and that it demands surroundings suitable to these emotions. If children are to be contented and happy we must respond to some of the impulses of their joyous nature, and not allow our business and daily toil to absorb our entire minds. Music affords a splendid means for making home attractive and if it can be afforded it may be well to cultivate this refining power by procuring some musical instrument. Adorn your walls with pictures and thus cultivate the love of art.

It is well to have standard magazines and books which will give glimpses of what is going on in the world around us, and endeavor to make the children familiar with the best current and standard literature. It is well to encourage a love of flowers and flower culture, and the parents ought not be ashamed to join their children sometimes in their games and sports. Do not keep your boys at work so constantly as to make them hate the old farm, but sometimes let them have part of an afternoon to themselves. If possible, give them some tools with which to exercise their mechanical ingenuity on rainy days and at odd times. Let them have part of the garden for their own pleasure and profit and a sheep or a colt to care for and manage. All these things will be so many anchors to fasten them to home and establish their loyalty to it.

Some one has wisely said: "I would be glad to see more parents understand that when they spend money judiciously to improve and adorn the house and the grounds around it they are in effect paying their children a premium to stay at home as much as possible and enjoy it, but when they spend money unnecessarily on fine clothing or jewelry for their children they are paying them a premium to spend their time away from home; that is, in those places where they can attract the most attention and make the most display."

Above all there must be the spirit of kindness and harmony in the home, for without this all else would be mockery. An attractive home is ruled by the law of love.

Oliver Wendell Holmes said: "The sound of a kiss is not so loud as that of a cannon, but its echo lasts a great deal longer."

When children do well parents ought not be ashamed to tell them so. "You can never get a man's best out of him without praise," and how much more do children need it. It is like sunshine to them without which there can be neither buds, blossoms nor fruit.

We must try to have contentment in our homes. In order to do so we must train our minds to self-sacrifice, to endure all things, to meet and overcome difficulty and danger. We must take the rough and thorny roads as well as the smooth and pleasant. If it is our lot for part of our daily duty to be hard and disagreeable, let us strive to be content, feeling anxious only to do our duty, and fill worthily every place whereunto God calls us.

There is perhaps no place where there is a greater need of the exercise of true, refined, every day courtesy, nowhere it will be more greatly appreciated than in the family circle, yet in how many homes do we find it? Each member of the family has an individuality and personal rights which should be respected. If this fact is recognized as it should be, it will breed courtesy, for that is nothing than a regard for the feelings of others.

We bow to our next door neighbor when we meet her on the street and give her a friendly word. This is eminently proper, but why should not the same consideration obtain among those who are bound to each other by ties of family relationship? We should try to cultivate courtesy in the household. We will be the happier for it, the children will be the happier, the servants will be the happier, and our neighbors will be the better for it. There is no more potent influence for good than the reflected light which radiates from the ideal family circle, for it is felt by all privileged to come within its radius.

The little things of life have much to do in making and marring us, for one's happiness is largely dependent on the small happenings of every day life. Little courtesies, little acts of kindness, have much to do towards sweetening the hardest tempers and the most hard worked lives. Kind words are the precious gems of speech which enrich all who receive them. They are as food to the hungry, drink to the thirsty, and grateful as "the shelter of a rock in a weary land."

In conclusion, I will say that we should try to make home the pleasantest and happiest spot on earth, and enjoy life as we go. Indeed it is well to look beyond the present into the future, and in the season of strength and prosperity, to make provision for a time when misfortune and old age may overtake us. This is a positive duty that we owe to ourselves and society, and if we neglect to do this, we must reap the bitter consequences of our indiscretion, for every thoughtful person will look at life as a whole, and work for the end as well as for the beginning. But I do not mean that we should ignore the present altogether, nor that our pleasures should consist solely in the anticipation of some future prosperity or expected success. How many there are who have toiled and saved to make money that they might be happy by and by, but who by the time they are fifty or sixty have used up all the enjoyable nerve in them. During their early life they carried economy and frugality to the excess of stinginess and when the time came that they expected joy there was no joy for them.

Let us then while planning for the future, beware how we slight the present; the now of life is the only time of which we are sure, and it should be our aim to improve and enjoy, not with a prodigal's waste or a miser's stint, but with the rational purpose of making every hour contribute something to the happiness and value of a lifetime.

HOME MAKERS OF VIRGINIA AND CASS COUNTY.

Read at Cass County Institute by Mrs. W. T. Price.

Members of the Domestic Science Club and Home Makers of Virginia and Cass County:—If you will turn to the "Year Book" of the department of agriculture for 1897, which the secretary says cost the government \$500 a page, you will find that it cost \$1000 to submit to the president and this same congress some more "wise plans" in regard to the following topics:

- "Problem of the Farmer's Home."
- "Need of Thorough Home Training."
- "The Teaching of Domestic Science."
- "The Department Work for the Home."

Then ends with the grand climax of "Proposed Help in the Training of the Women."

Then adds: "In helping the women of our land, nearly one-half of whom are toiling in the homes upon the farm, this department, it is believed, has a great duty to perform."

Ladies, here is an opportunity to serve our country? Let us not be improvident with the public funds, but since we find ourselves with the government at our back and fully equipped for our responsibilities, try to overcome the indifference or inertia charged to our account and not stand as barriers in the way of widespread reform; but endeavor to bring ourselves up to the highest efficiency, and not waver before the intricacies of the "Problem" or stand appalled by the word Science.

Domestic science does not add to, but lightens and lessens our perplexities, makes plain and simplifies.

A family fed on scientific principles, is nourished with economy of time and money and a house scientifically furnished is easily kept in a condition of sanitary cleanliness. Domestic science is no new fad, neither did it have its origin in Mrs. Rorer. Nature's treasure house has gradually yielded up her secrets and by the wise application of the clue of her ways, much may be done to relieve drudgery and the tread mill grind, quiet and strengthen overtaxed nerves and variety change places with monotony.

Scientists are giving their attention to these subjects and prove without doubt that the food we eat greatly determines the health of our bodies, our mental and moral condition, and are considering the prevention rather than the cure. An eminent physician says that "Cookery is a powerful moral agent, capable of influencing men's opinions and feelings to a great extent and may be of great service in regenerating a nation;" and that "a man's temper depends much on the condition of his stomach."

Ladies, let us look well to the ways of our household.

Many years ago some one said: "Let me know the food of a nation and I will have no trouble in finding out its laws."

Shakespeare said:

"In the name of all the gods at once,
Upon what meat does this Our Caesar feed,
That he has grown so great?"

Alexander the Great said: "Armies march upon their stomachs." His soldiers conquered the world, and might not Satan's empire have fallen had Swift and Armour furnished the "canned beef?"

"Kitchen physic" is claiming the attention of the thoughtful practitioner, yet the best of family physicians is more ready to say what the sick ought not to eat, than to advise what well people should eat and when and how to keep well.

Marian Harland suggests the idea to pay the "family physician" to keep his charges well and to stop his salary when one becomes a patient, and that in the good time coming the doctor will league, not with the druggist, but with the green grocer and the butcher!

We are called the "dyspeptic nation" and are told "our civilization is being the death of us." "We Americans, so rich in our wheat fields, have become a nation of starch eaters," thus refusing the greater part of the life-giving ingredients of the perfect grain, which contains the fifteen elements found in the human body. A noted scientist writes: "We can not tell of what the American is capable until he is properly fed," for we possess in wheat the most excellent of cereals, but if we continue to reject the better portion of it, we deserve to sink to the level of the rice-eating nations.

The province of domestic science extends beyond the mere eating and drinking; it teaches how to choose and use things near at hand to make life on the farm something more than seed time and harvest, physical labor and rest. Amidst a thousand schemes for the advancement of mankind, the greatest is the one that enthrones the home.

"Religion, the enforcement of law and patriotism are good bases on which to build character," and where, better than "near to Nature's heart," could be reared the useful woman and the honest man? Women of Cass county, let us prove what has again and again been demonstrated, that what the women of a country resolve shall be done, must and will be done.

MANAGEMENT AND ECONOMY AS IT APPLIES TO COUNTRY LIFE.

By Mrs. Etta R. Gillispie before the Douglas County Farmers' Institute.

The eminent Carlyle never served his age better than when he enjoined upon the ambitious and impatient: "Do the duty lying nearest thy hand; having done this, thy second duty will have become plainer, and whatsoever thy hand findeth to do, do with all thy worth and constancy."

If we can not wholly endorse this dictum we must admit that the practice would reduce the nervous unrest which is wearing more housewives into their graves than many other disturbing causes combined. We often hear this very common complaint: "I have so many things to do that I do not know what to do next." This is a confession of inefficiency. It means that the ordinary business of the day is more than the intellect can grasp. It is not always the fault of the housewife if the duties appointed to her are in confusion instead of in orderly lines. But it is her fault if she can not discern the relative importance of what must be done. System is the keynote

that admits her into the realm of success. This will enable her to perceive from moment to moment, what comes next. One reason of all the unsettled flurry and worry that mars our best work is that we under-rate the value of the duties assigned us. Setting rooms in order, washing, mending, baking, sewing and the endless repetition of precept upon precept that enter into the training of children, throw us into jostle and jumble from dawn to darkness. The summing up is this: "Where he hath made and keepeth you, God has no other work to do." Bring to your work and His a clear head and a calm mind. Practice the art of discerning what is the right "next." There can be but one. Your life will then become a blessing instead of a rubbish heap.

It is a grave mistake for a mother to lose sight of the fact that she is a lady, because she has no time to cultivate or practice the accomplishments which once made her useful and agreeable. Self-sacrifice is said to be a feminine vice. It does not always mean death for another. It is often giving up all that makes life enjoyable. Sometimes the ordinary kitchen floor makes an altar upon which we sacrifice. Or the desire to excel in the culinary art. Have not women really killed themselves scrubbing and cooking? How hard hearted is the door step that has been scrubbed daily for a quarter of a century to be indifferent to the woman on her knees before it.

There are women who give their time and closest attention to fashion and the subject of dress; and in whose home the sewing machine is a tyrant. We heard of one devoted member of this class who propped herself up in bed and made a dress the night before she was taken to a small pox hospital.

The sacrifice of life to material things is morally and spiritually wrong. But the worst sacrifice that women make is when they sacrifice themselves for their families. How often does the devoted mother of the family wait upon all the members of the family when they could and should wait upon themselves. She even humors their foolish whims and deprives herself of needful things that they might have hurtful luxuries. Such thoughtless sacrifice as this will foster carelessness and selfishness in other members of the family, especially the children.

One cause of this ignoble sacrifice on the part of the wife and mother is a lack of realizing her exalted position. A noble man desires less his wife's services than her sympathy and the uplift she can give him. Many times the trifles on which she labors have an indirect bearing upon his comfort and are not appreciated by him. The children, too, need a wise friend more than a loving drudge. She can not well be both. Therefore, let us not defraud ourselves of every bit of leisure. Let us be just and lenient with ourselves, as we would with any of God's creatures. Live a life worthy of merit and you will be sure of obtaining it.

It has often been said that an education has but little to do with a woman's success in life. It is true that many of the greatest women of the present day have not had a college course. But we believe that education will enhance the value of native ability in any phase of life. Of course persons should be practical and have their experiments based on common sense. A high order of mental culture does not unfit a person for domestic life. A woman who knows something of the mechanism of the human body, will use her brain force and acquired knowledge to help her devise ways and means to lighten labor and bring about the desired results.

The more we know, the more we are conscious of our own ignorance and limitations and the more ready to study cause and effect; the more eager to grasp the best ways and means of doing anything that comes in our line. The household hints that we find in many journals are golden and do much to help and save the housekeeper, if only she will take a little time to rest and read.

When a woman lives in the city she generally tries to tidy up for the afternoon. In the country those who do their own work have but little time to make this needful change. We believe a person should dress according to her work. In the morning the faded or dark wrapper is good enough, but we seldom find it necessary to wear this untidy costume until bed time. As a rule mothers are not so careful as they should be to dress in a way to please

their husband and children. In olden times the habit of neatness was rigidly enforced upon young girls. Nowadays girls are neat to a certain extent. They wear clean clothes but are they always tidy? The hair is often loose and has an inclination to tumble down; the gloves are ripped at the finger tips, etc. However, we think one of the greatest mistakes mothers make is the neglect of teaching their girls to do housework. To be sure they can make lovely angel food and delicious salad, but no mortal man can live on angel food and salad alone. We want our daughters to be educated and accomplished, but if they improve their time rightly they will have some time for both pleasure and work. Very often these daughters that are too good to work are led to a matrimonial altar only to preside over very humble homes, when there is no other alternative but to work or starve. And when the dinner is served in a disgusting manner the husband will indulge in some reminiscences of how mother used to cook. Then the tears fall thick and fast and any amount of trouble follows in the wake. In time to come, our children will love and respect us more if we have taught them what will aid them through life.

As a rule the father so educates his son that when he assumes the care of a home he is capable of running the farm. How discouraging it must be to him to realize that his wife has not even learned to make bread. If we want happiness in our homes we must lay the foundation of good health and comfort by being able, at least, to make good bread, good butter and do other kinds of common cooking properly. There are two kinds of women we find in the kitchen. One kind cooks for the family, the other cooks for company. The last named considers anything good enough for the home folks. The bread is heavy, the vegetables cooked without care; everything scorched or smoked. But if a visitor drops in an appetizing meal is served.

To illustrate, we will relate the story of the minister who was courting a girl who had a richer suitor. Supper was on the table when the other unexpectedly came in sight. The food was quickly removed and replaced with better. The parson was asked to bless the meal. He responded:

"The Lord be praised; we are amazed
To see how things have mended;
Shortcakes and tea for supper we see
Where mush and milk had been intended."

A good manager will not make use of every device to save labor. Surely no part of the house work calls for better management than the laundry work. Tuesday is considered to be a better day for washing than Monday. The house is usually somewhat disordered after the day of rest. On Monday the necessary work may be done that will lessen the cares of wash day. It is better to prepare the meat and vegetables for dinner before beginning the washing. Soak the clothes over night and then, in addition to the ordinary helps, use some good kind of washing powder, coal oil, borax or ammonia. It is best to send collars, cuffs and fine shirts to a laundry, even if we have to economize along other lines to pay the bill.

Gasoline is used for washing anything that can not be washed by ordinary methods. The most delicate fabrics may be washed in this way without fading or shrinking in the least. The work should be done rapidly and always in the open air. Otherwise there would be some danger of the gasoline igniting.

Some farmers' wives do not make their own laundry soap, but waste the ingredients that accumulate in all country homes and which could be, in two hours time, converted into soap enough to last six months.

There are other kitchen wastes of which we will speak. After meal time scraps of bread, meat, cake, etc., are thrown away which should be saved and converted into palatable dishes.

Don't allow the ashes to choke up the grate and burn it out. Don't keep a big fire in the range when you don't need it. Don't put your clothes on the line on a wintry day and leave them one moment longer than is necessary. If the ironing and baking can be done at one time it saves much fuel. It is not economy to do without things we really need to work with, and thus

try to save money at the expense of brain and brawn. Better get what you need and then take care of it. A cooking stove will last twenty years if rightly used and repairs kept up. If possible, have a good cistern, a gasoline stove for summer, a range for winter, and a patent dish-washer, if you have a large family to do for. A few simple remedies that we can use in common ills or accidents will be found in all well managed homes.

House cleaning is a difficult problem in many families. We should make preparations to get at it systematically before throwing the house into confusion. Prepare such food as will enable one to serve quickly a tempting meal. See that you have everything at hand—furniture oil, brushes, tacks, etc. The new carpet intended for spring should be ready for use before the rush comes on. Also, the spring sewing should be done during the winter. Often one pair of hands and one brain must plan to do it all. With many women there is far too much hard work. They should have more help and thus find time to go from home, take more pleasure and find something to divert their minds from care.

In a recent Farmers' Institute a farmer said: "Much of your success depends on the good health of your wife, doesn't it? Then why don't you take steps to lighten her labor and preserve her health? Many of you have good wells with wind-mills, and you have run pipes to your barns because it saved you the trouble of leading your flocks to water. But how many of you have run water pipes to the house, thus giving your hard working wife the convenience of stepping to a sink and drawing fresh water when it is needed." This man must have been talking to the wealthy class of farmers, particularly those who lived upon their own farms. There is another class of farmers' wives who can not reasonably expect the water piped into their kitchens, but we do expect and insist that we have a pump put in the well.

There is many a worthy man who has not the means to supply the actual comforts his family deserves. Someone is responsible for existing ills that could be and ought to be corrected. An unerring God has said the silver and gold are mine. If this be true, then those of us who have an ample share of it are his stewards, and as such will have to give an account of "how spent."

However, there are many ups and downs that obstruct our pathway in any of the walks of life. After having done our duty and used our best efforts to make ourselves and others happy, we must leave the results in the hands of one "Who doeth all things well." If we represent families of small means, let us keep house for our own comfort, and not for the comfort of our neighbors. Let us have a standard of our own based upon our own tastes, needs and income, and not regulate our expenses by the income of some one else. It is moral cowardice to face debts and forfeit self-respect rather than hear the unfavorable comment of our friends and neighbors. Let us so live that we will not have to bend every energy from daylight till dark to the getting of money.

The early life of a child is a very important era. The whole life will be influenced by those early days spent on the farm. Make the surroundings of home as beautiful as possible. Have plenty of well chosen papers, books and music, if you can afford it. Teach the children to see the real more than the artificial things in life, remembering that in our isolated country homes we are very near to nature and nature's God. And try to emulate the example of other mothers in homes of toil who have given not only the greatest physical health and strength, but some of the brightest minds the world has ever known.

MISS PENWELL'S REPORT OF THE COOKING SCHOOL AT THE STATE FAIR.

Read at the Shelby County Farmers' Institute.

As you all probably know, my paper is to tell you about my trip to Springfield. In the first place, there's been a new building erected on the fair grounds at the Capital in the interest of the Domestic Science Societies of the State. It is the most attractive building on the grounds. On the first floor of

most importance are large reception room and free nursery; on the second the lecture room and what will be the model kitchen and dining room, but owing to lack of funds, they were not perfectly equipped this year; on the third floor is the dormitory, for the use of the lecturers and students. This year the building was lighted with candles, but hope by next year to have electricity.

We should all remember to be grateful to Mrs. Dunlap of Savoy, Illinois, who was here last winter, as she has done more than any other one person toward this building. I would also like to speak of our secretary of agriculture, Mr. Garrard, who did all in his power to aid us and make our stay in Springfield pleasant; though, by the way, he complimented us by saying we were the easiest lot of women he ever undertook to get along with.

The probability is that students will be appointed from congressional districts in the future. An examination will be given and written agreement entered into.

We have no Domestic Science Society here, but through the courtesy of Mrs. Dunlap, Mrs. H. R. Scarborough was given the power to appoint a delegate this year from Shelby county to attend the lectures and demonstrations in the building.

When I arrived in Springfield I found myself first girl on the grounds and no one in charge to direct us what to do. The first woman I met proved to be Mrs. Rorer, who was very busy, having had to assume all responsibility. I had read very much of Mrs. Rorer, as probably you all have, consequently I expected a great deal. Her abilities have not been overestimated. My experience with her the two weeks in Springfield made me feel her pupils in Philadelphia are to be envied.

Soon other girls arrived and we were all put to work getting our kitchen and dining room in readiness. We lunched heartily on an apple at noon, but in the afternoon provisions arrived and we received our first lesson in preparing our six o'clock dinner. It would be impossible to give you an account of each day's proceedings, but will try to give a synopsis of what was most impressive. The first thing to do is to furnish your kitchen, and first in furnishing would come the stove, but as most everyone now has a good stove for winter and a gasoline or oil for summer, it is not necessary to dwell on this. The next to arrange for is the water supply. In town the city water is more often used, but in the country there is no reason why there should not be a pump and a sink with a good drain pipe. The supply of smaller kitchen utensils should be plentiful and non-breakable. The old fashioned ware of heavy iron should be done away with, the light enameled or granite put in its place, and when you can afford it, the aluminum. There are many small articles that are a great convenience. I have a few here which I will be pleased to show you after this session. It must be remembered the kitchen is the workshop and laboratory; the workman and chemist must not be limited in tools if we expect good work. A farmer does not expect to plant and harvest a crop with the same machinery; neither should the cook have one pan for vegetables—to clean them in, to cook them in, and afterwards to wash the dishes in. A well furnished parlor is a luxury, a well equipped kitchen an absolute necessity to good living.

Next you should consider who you cook for. Like a doctor, a cook should consider her patients. First to be considered is the constitutional peculiarities—the temperament of the individual. Such foods should be prepared that would resist the encroachment of any inherited trouble, for instance one inheriting a tendency to lung trouble should be supplied in plenty of albuminous foods and oils; by that I mean olive oil, butter and cream. After knowing the constitution we should learn the occupation. I will quote from Mrs. Rorer: "What's one man's poison is another man's meat. Had nature intended one sort of food to supply all the wants of man one sort only would have been given. Men under different conditions in different climates and those following different occupations must certainly have different foods. The wise stock keeper does not feed alike his race and draft horses, or his setter and pug." A display of this same intelligence among human beings would in another generation show marked improvement in the race. The soluble

light diet so well suited to the quiet life of old age would not suffice for the activity of youth. Brain workers indoors require less heat food than out-of-door workers. The commercial, the literary, the athletic, the clerical and the active life each require a special modification of diet.

Now we come to what to cook. One must know how to select foods to get them in proper proportion. Food for the muscle and tissues, such as meats, eggs, fish, milk and its product, cheese, peas, beans, and the gluten of grains. Food for the heat and motion, such as rice, potato, macaroni, flour, sugar and fats. Remember to vary the diet according to season, not supplying as much heat-producing food in summer as in winter. While we study the nutrition we must not forget to make the foods palatable and we must be economical in our selection. Under this is the buying of things, which is a science in itself, and each one must study according to their market. After the purchase comes economy in using. For instance, in peeling the potato we must not peel away the best part lying next the skin, and feed it to the pigs or chickens, for why not fatten your family instead of your pigs and chickens? Under this head also comes the subject of "left overs," which deserves a volume to itself. I have a volume on this subject by Mrs. Rorer, which I will be pleased to show any of you.

Last of all comes the how to cook—this can be learned more by recipes and practice. In using a recipe remember to follow it closely—being careful in all the measurements. Use great care in baking to have the oven at the right temperature and same with boiling. Simmer does not mean boil.

To illustrate what I've been hinting at in this necessarily brief synopsis, I'll give you a menu of a wholesome breakfast:

Fruit. · Mush Bread. Broiled Chicken. Hygienic Coffee.

This is sufficient for any one, in fact it might be lighter. The heavy breakfast quickly and carelessly eaten by the average family brings about such diseases as come to the over-eaters—rheumatism, gout, uric acid conditions and Bright's disease.

Liebig says regarding the fruit: "Besides contributing a large proportion of sugar, mucilage and other nutritive compounds, they contain such a fine combination of vegetable acids, attractive substances and aromatic principles with the nutritive matter as to act powerfully in the capacity of refrigerants, tonics and antiseptics, and when freely used at season of ripeness by rural laborers and others they prevent debility, strengthen digestion, correct the putrefactive tendency of nitrogenous food, avert scurvy and probably maintain and strengthen the power of productive labor." This certainly is sufficient argument for the use of fruit at breakfast.

For the mush bread I will give the recipe in order that you may understand it. Put a pint of milk over the fire, and when hot, not boiling, because when boiled the albumen hardens and becomes indigestible—stir in, as in mush, ²/₃ cup of coarse corn meal, when slightly cool add the yolks of four eggs and then fold in the well-beaten whites. Turn into a greased pan and bake in a moderately quick oven 30 minutes. Eat at once.

This is a complete nourishment without anything else—the milk and egg building the muscles and tissues and the meal furnishing the heat, but out-door workers will appreciate the addition of the chicken. Hygienic coffee is the drip coffee, where water freshly boiled is poured through the ground coffee.

The noonday meal should be light unless two hours' rest can be taken. The night meal should be the heavy meal of the day, for the stomach will be undisturbed in its work of digestion. First there should be a clear soup—the idea is to warm and stimulate the stomach without giving nourishment; follow this without a red meat, either beef or mutton, broiled, roasted or boiled, one starchy vegetable as rice, macaroni or potato, peas, beans or squash, according to the season of the year. Then a light salad, either celery, lettuce or shredded raw cabbage, dressed with a little oil and few drops of lemon juice.

In regard to olive oil, Mrs. Rorer says: "All machinery must be well oiled to prevent friction, and the wonderful human machine is not an exception to the rule."

Then finishing our dinner we have brown bread and some very light desert, as junket custard or baked apples. This menu may be changed but be sure and keep in mind the variety. I would like to call special attention to the junket. Dissolve one junket tablet in tablespoon of water. Take one quart of fresh warm milk or heat cold milk until it reaches 100 degrees, add four table-spoonful of sugar and when dissolved take from fire and add the tablet. Stir hastily and pour into the serving dish. Allow this to stand undisturbed in a warm place until the mixture is jelly-like, then carry it most carefully to a cool place. Do not disturb until ready to serve, because after once disturbed the milk and whey separate. Eat with cream.

The junket tablet is a form of pepsin and is simply an easier form of using rennet. They are inexpensive, a package of 12 tablets costing 10 cents.

I can not hope to have taught you anything in this short paper, but if I have interested you enough to lead you to study for yourselves, my object will be accomplished. To do this I would advise you to procure cook books from any of our good teachers, but for myself I prefer Mrs. Rorer, having been so favorably impressed with her. To keep well informed on this as upon any other subject, you must have current literature. I can recommend any of the following magazines: Ladies' Home Journal, American Kitchen Magazine, Boston; American Cooking Magazine; Good Health and Good Housekeeping, Springfield, Mass., each costing about \$1.00 a year.

To give you the flower as well as the substance, I will quote Ruskin: "Cooking means the knowledge of Medea and Circe, and of Calypso, and of Helen and of Rebekah, and of the Queen of Sheba. It means the knowledge of all herbs, and fruits and balms, and spices, and of all that is healing and sweet in field and groves and savory in meats; it means carefulness and inventiveness, and watchfulness, and willingness, and readiness of appliance; it means the economy of your great-grandmothers and the science of modern chemists; it means much lasting and no wasting; it means English thoroughness and French art and Arabian hospitality; it means, in fine, that you are to be perfectly and always, ladies (loaf givers) and as you are to see imperatively, that everybody has something pretty to put on, so you are to see yet more imperatively, that everybody has something nice to eat."

The following report was made by Miss Margaret Black at the Friday evening session:

As you all probably know it will be my purpose in this paper to state briefly something of the work done in Springfield, and some of the things which were greatly impressed on the minds of the students by Mrs. Rorer, the principal of the Philadelphia cooking school.

I have read very much of Mrs. Rorer, as probably you all have, so I expected a great deal. My work with her in Springfield made me feel that her pupils in Philadelphia are to be envied. And I am truly grateful to the ladies of the Domestic Science organization for giving me the privilege of being with her for two weeks.

As you all know there has been a new building erected on the state fair grounds and dedicated to the Domestic Science societies of the State. It is one of which we may well be proud, as it is one of the most attractive on the grounds. On the first floor are the large reception rooms and a nursery, on the second the lecture room, kitchen and dining room, on the third floor is the dormitory, for the use of the lecturers and students. The building is yet in an unfinished condition, but they hope to have it fully equipped for the purpose of the school by next year.

Food is a subject that is attracting much attention from all classes of people. It is a subject of vital importance, as the health, strength and welfare largely depend upon the nutritive value and purity of foods. We should learn more regarding these foods which we use, as there is no doubt that much of the disease of man is due to poor food, poor management in selecting the diet, and to improper cooking.

Mrs. Rorer is zealous to impress upon this feasting, food-loving people, that they should eat to live and not live to eat, and for this reason she is employed to teach and we are asked to, in a measure, tell what she has taught us.

There were twenty-two students from as many counties, who received instructions in cooking and helped to prepare the food which we were to eat, or do without, and I suppose it is needless to say, we tried to do our best in the work for we didn't want to be ashamed of our ability. We commenced the work of the day by a light breakfast, usually of some cereal, shirred eggs, bread and butter, and coffee or cocoa. Right here let me add a saying of Mrs. Rorer's: "The people who eat meat for breakfast are the people who have rheumatism and gout."

After breakfast we did as all well regulated households do, washed the dishes and put the rooms in order, then commenced preparation for luncheon.

We assembled in the lecture room a few minutes before 10 o'clock, with note books and pencils, and usually the room was crowded with visitors who wanted to see the famous Mrs. Rorer, and learn what a cooking school was like.

Promptly at 10 o'clock Mrs. Rorer appeared upon the platform—promptness being one of her maxims. As she stands before us, we wonder if our knowledge of her age is correct—sixty years, though she appears not more than forty. She possesses a pink and white complexion, that we all may envy and we may attain by proper living. Her plain dress was relieved by narrow white cuffs and a bertha of lace and protected by a small white apron. Upon her fair head rests a dainty cap of real lace.

This platform is furnished with a gasoline stove and two work tables, one of which is the material to be used in demonstrating. In one of those lectures we are told how to furnish a kitchen. We should have everything convenient. The supply of cooking utensils should be plentiful and non-breakable. The old heavy tiresome ironware should be done away with and lighter ones put in their place. The kitchen is a workshop and a laboratory so the workman and chemist must not be limited in tools if we expect good work. The farmer does not use the same machinery to plant wheat that he does to thrash it, neither should the housewife be expected to wash the vegetables and cook them in the same pan. A well furnished parlor is a luxury, but a well equipped kitchen is a necessity to good living.

In another lecture some article of food was selected, and the chemistry of its nourishing elements are explained and a demonstration of the various methods of preparing it. I wish I could impress upon every lady here Mrs. Rorer's idea of measuring. "Be careful of your measurements." She often stated that should she prepare a dish a thousand times, each time it would be of the same consistency. I wonder how many of us can say the same. Do we take a pinch of this and a little of that, and so on through the catalogue?

Still another lecture was devoted to eggs, and she insists that eggs and meat should never be eaten at the same meal, for the reason that they contain the same elements of nutrition; and so to us, since we know this, ham and eggs, the good old standby, should be a breakfast of the past. And as for frying, we were a trifle shocked when we heard her say that "fried chicken was an abomination unto the Lord," fried food of all kinds being indigestible. She says that "five pounds of lard mixed with one pound of suet is sufficient for all necessary purposes in a family of six, to last one year." Six pounds altogether. How many do you use?

When the lecture was completed we finished preparing the luncheon, which was served at 12:30. After this the tables were cleared and with our note books we again gathered around them for the private lessons which consisted of an informal talk. At this time the menu for the 6 o'clock dinner was selected and each girl assigned her part of the work. After having done the work the time was at our disposal until the dinner hour. Mrs. Rorer advocates the night meal, being the heavy meal of the day for the stomach will be undisturbed in its work of digestion. First there should be a clear soup. This does not contain nourishment, but simply tones and warms the stomach for the reception of other foods. Follow this with beef or mutton, broiled, roasted or boiled, one starchy vegetable as rice, macaroni or potatoes, and one green

vegetable as cabbage, peas, beans or squash, according to the season. Then a light salad, dressed with olive oil or lemon juice. Mrs. Rorer says in regard to oil: "All machinery must be oiled to prevent friction, and the wonderful human machine is not an exception to the rule." Finishing our dinner we have some light dessert as custard or baked apples. This menu may be changed, but keep in mind the variety.

In the evening we usually sat around the fireplace in the reception room and listened to Mrs. Rorer talk. I am often asked if I think Mrs. Rorer practical. I would answer, "In the main, yes." I have heard her severely criticized for such statements as the following: "We should not eat many pickles," "fried victuals are indigestible," "those who eat pie and cake have no brains," These do seem strong statements, but when we consider that this has been Mrs. Rorer's life study at home and abroad, among the poor and the lowly as well as the wealthy, we should be convinced that she surely knows whereof she speaks. She must have some authority to substantiate these statements or she could not afford to make them.

She is now seeing some of the results of her life work. Domestic economies are being discussed as never before. All leading periodicals are giving space to the ladies for the discussion of domestic science. Schools are established and clubs are formed for the purpose of lightening woman's labor and lengthening human lives.

We are laughed and scoffed at when we enter the political field, but we have yet to hear the first laugh when we come forward to discuss the science of cooking, for it is our vantage ground, and "where is the man who can live without dining."

Report of State Fair Cooking School, by Eva C. Chapman, Wheeler, Illinois.

At a recent session of the State Legislature of Illinois, a sum of money was appropriated for a Woman's Building to be erected on the State Fair Grounds at Springfield, and to be used in demonstrating the principles of domestic science. The building was dedicated on Wednesday of the fair. The second and third floors were arranged for the use of the cooking school. The second floor consisted of the kitchen, dining room and lecture room; and on the third floor was the dormitory.

Each president of the County Domestic Science Association, was requested to appoint one young lady delegate to attend the cooking school, given in the Woman's Building, and conducted by Mrs. Rorer during the State Fair and the week following. Fortunately I was chosen by Mrs. S. Rose Carr to represent Jasper county.

There were about twenty-five girls from the different counties who attended the school and lived in the Woman's Building the two weeks.

We begun the day's work by preparing our breakfast, which usually consisted of some cereal, eggs, bread and butter and coffee. After the dishes were washed and the kitchen and dining room in order, our time was at our own disposal until ten o'clock when the public lecture begun. The lecture room is a large one but it would not accommodate the large crowds who came to see and hear Mrs. Rorer. At this lecture some dish was selected, the chemistry of its nourishing elements explained and the different methods of serving it demonstrated. The girls had note books and pencils and wrote down the important points and recipes. After the lecture we returned to the kitchen to prepare luncheon which was served at 12:30. When the rooms were again in order we had our own private lecture to which the public was not admitted. The bill of fare for the six o'clock dinner was prepared and each of the girls, was assigned some part of the work to do in preparing it, and two were appointed to serve. After dinner came the crowning event of the day when we gathered about the open fire in the reception room and talked with Mrs. Rorer and the matrons. Mrs. Rorer's talk was so charming and entertaining the girls always preferred to remain with her than go to any of the places of amusement.

I will state very briefly some of the ideas gained at the cooking school. I will first give you the definition of cooking by two noted persons the one by Ruskin is "cooking means the knowledge of Medea and of Circe and of Helen and of Rebecca and of the Queen of Sheba. It means the knowledge of all herbs and fruits and balms and spices, and of all that is healing and sweet in fields and groves, and savory in meats. It means carefulness and inventiveness and willingness and readiness of appliance. It means the economy of your grandmothers and the science of the modern chemist; it means much testing and no wasting; it means English thoroughness, French art and Arabian hospitality; and in fine it means that you are to be perfectly and always ladies, loaf givers. And thus Miss Haryot Holt Cahoon expatiates on the same glowing topic.

"Ask a woman what cookery means. It means the patience of Job and the persistence of the Pilgrim Fathers. It means the endurance, the long suffering and the martyrdom of Joan of Arc. It means the steaming and the stewing and the baking and the broiling, thrice daily, springs, summers, autumns and winters, year after year, decade after decade. It means perspiration and desperation and resignation. It means a crown and a harp and a clear title to an estate in heaven. From her judgment and reason the cook must evolve triumphs that depend upon salt and pepper and sugar and herbs. She must know how soon and how long and how much and how often. She must know quality and quantity and cost. She must serve the butcher and the baker and the candle stick maker. Then she must rise above it all, and be a lady, a loaf giver."

Soup should always precede heavier food. At the homes of farmers we find soup less often on the table than almost anywhere else. The average farmer thinks it a waste of time to serve soup first, and begin with the heavier food, and so shocks the stomach. But if it is explained to them that soup tones and prepares the stomach for the heavier foods to follow, they will not object to it.

Salt is unnecessary to eggs as sugar to milk.

For consumptives, olive oil should be used abundantly to build up the tissues.

Potatoes should be pared very thin, chief constituent is potash salts and most of it is near the skin.

Mrs. Rorer strongly disapproves of frying as a method of cooking. One morning some of the girls asked to have fried eggs for breakfast, and she replied, "O no," very emphatically. She said food prepared in this way was wholly indigestible. She does no canning or preserving fruits, she serves on her table whatever is in season. She told us the secret of preserving fruit was absolute cleanliness.

Sugars are not digestive from the ordinary acceptance of the word they are simply changed into another form of sugar. All starches must be converted into a kind of sugar before they can be assimilated. The test for starch is iodine it turns blue in the presence of starches.

I will mention some of the different kinds of sugars:

- (1.) Glucose of digestion is not the glucose of commerce.
- (2.) Dextrose, one kind of inverted sugar of which honey is an example, being 78 percent sugar.
- (3.) Laevulose a very peculiar kind of sugar that we find in dates, figs and prunes.
- (4.) Grape sugar is a glucose found in grapes and fruits.

In conclusion I will speak of meats:

Have the oven very hot when the meat is first put in, and afterward allow it to become cooler. Put no water in the baking pan with the meat. Allow fifteen minutes for heating and fifteen for baking each pound if it is to be served rare or twenty if well done. Season when it is partly done.

The end of the two weeks came all too soon and the girls were all sorry they could not return next year but others must be given an opportunity and we are glad to have been the pioneers in this great work.

Fifty years ago few avenues were open to women, they did not think of adopting any profession. To the women of today all doors are open. But it is in the home that she does her greatest, grandest and most lasting work. And the women of Illinois should resolve themselves into capable women who will make the State stronger and better because of its homes.

ORDER IN THE HOME, OR SYSTEMATIC HOUSEKEEPING.

By Mrs. J. M. Clark, Sparta, Ill.

“Oh, this baking and brewing,
This boiling and stewing
And washing of dishes three times a day!
The griddle cakes turning,
The skimming and churning,
The setting of tables and clearing away!
What is it but weariness,
Work without cheerfulness,
The same round of labor day after day?
I'd rather be painting,
Or sewing or braiding,
Or spending my life in a pleasanter way.
Thus my fancy kept dreaming
O'er the hot dishes steaming,
And wondering why I must a kitchen fire tend—
Till an angel's low whispering
Compelled me to listening,
And taught me these household discomforts to mend.
Is your work not the oldest,
The usefulest, noblest,
In ministering daily to the life God has given?
If the work is unceasing,
Of washing and sweeping,
Remember that order's the first law of Heaven.”

Housekeeping is the art of home making. As has been said, “Man builds houses but woman makes homes.” God in his all-wise providence has placed woman as keeper of this home. It is “woman's kingdom.” Here in this home she reigns supreme as queen. Here she has lives entrusted to her care, to whom she ministers daily.

That word “home”—what sweeter word of four letters do we find in the English language? What a rush of sweet memories rise up before us at the mention of that one word “home.”

“Home, home, sweet, sweet home,
Be it ever so humble
There's no place like home.”

No doubt but the vision rising before our minds is that of the old home of our childhood; of our dear old fathers and mothers, some of them no doubt gone to that heavenly home years ago; of our sisters and brothers, all of whom are probably scattered far and wide in different states. We see every tree and bush and flower, and the exact spot where each stood. We also remember some of the amusing experiences; of the time when we took our first horseback ride, on a man's saddle, and fell off; when sister stumbled backwards into the slop bucket; or brother was everlastingly getting into scraps of some kind, owing no doubt to his bump of curiosity. Or perhaps it may be of some sad occurrence of which we think—all these come rushing into our memory so vividly, as if they were happenings of but yesterday.

Homes were instituted ages and ages ago. There have been homes ever since, and there always will be as long as the world stands. Our homes might be compared to a bee hive. There we find the queen bee busy all day from morning till night, ministering to her loved ones. Day after day, week after week, month after month, yes year after year is she kept busy with her home duties. Many and wearying are the tasks she performs over and over again for those she loves. Many and many a time does her back ache and her head grow dizzy from the heat, but scarcely a minute's time has she in which to stop her work for a few moment's rest. Well did the poet write who said:

"Man's work lasts from sun till sun,
But woman's work is never done."

Yes, this life of a housekeeper is truly a busy one. I often wonder what the world would do without the housekeepers.

"We may live without poetry, music and art;
We may live without conscience, and live without heart,
We may live without friends; we may live without books.
But civilized men can not live without cooks!"

So it would seem that a housekeeper is very handy to have about the place. Did you ever notice the different ways there are of keeping a house? Some are kept neat, tasty and clean, others are kept just the opposite in every sense of the word. There is a right way to keep house and there is a wrong way, just as there is a right and a wrong way to do everything else. Housekeeping should be done systematically, and on business principles, just as carefully as a business man would conduct his business. Can you point me to a business firm in this city, or any other, whose business is conducted in a careless, haphazard, unsystematic manner and say that "they are a success," can you?

"Order is heaven's first law" and this law of order should begin in the home. The mother should begin by training her children to habits of order and neatness, or in other words, train them to have "a place for everything and everything in its place." Yes, the mother should begin to train her child even before it is born. If the mother is careless in her habits—just throws an article down, wherever it happens, on the floor, the chair, the bed—anyplace but where it properly belongs, how can she expect her child to be anything else but careless and slovenly. It is part of our life work and the part that needs with God's help, the greatest thought and patience to train our children into the systematic, order loving, noble men and women we would have them.

The truest and highest type of a housekeeper is one who understands how to train her children and to systematize and economize her work.

Be the home a mansion, or the more lowly cottage, the housekeeper must be careful and saving in the management of it, or "she can throw out faster with a spoon than her husband can throw in with a shovel." It is so easy to waste a few teaspoons of flour now and then, or spoil the cooking by carelessness in some way. These little wastes in a year's time amount to a good deal. If there is carelessness and waste in the little things of the kitchen, is it not usually as bad or even worse in other departments of the home?

How often we let some of our clothing get beyond repair, all for the want of that one "stitch" that saves the "nine,"—yes, sometimes ninety nine. These are little things, yet they mean much. "If you save the pennies the dollars will take care of themselves."

I know of no place where brains can do better service than when invested in the every-day routine of the housekeeper's life; she should make her brains save her heels, and yet, it seems in many instances, they are left entirely out of the question.

Has the business man any more severe tax upon his mental energies than has the head of the household, she, on whom so many depend for comfort and happiness?

She must think and plan out work before hand; plan ahead from day to day, and meal to meal.

We would not advise the making of any "cast iron rules," but would plan well, so that if it were necessary plans could be rearranged for a day, and would not necessarily upset plans for a week or more.

In order to plan well, a housekeeper needs a stock of good, common sense. We agree with Josh Billings, who says: "If there kant but one in a family have good, common sense, I say, let it be the wife." In imagination I hear the gentlemen say, "That's so; it's what they every one of them need."

What a saving of time, and strength (yes, and temper as well), if we only would carefully plan out our work, then go and do our work as we had planned, and in so doing we would be using good common sense.

But in order to save time, strength and temper, we must of necessity have "a place for everything and everything in its place." How provoking it is, when in doing our work, and we need a certain article with which to do it, we go to get the needed article, and lo, and behold, it is not in its place. Some one has been using it and was so careless or lazy, or slovenly (or whatever you may please to call it), that when they were through using it, they did not replace it in its proper place, then you have to spend precious time hunting around for it, and when found it more than likely will be unwashed. Why, it is enough to provoke a saint. It should be our special duty to have a special place for everything, then all concerned appoint themselves a committee of one to see that each article they use is replaced or its own hook or shelf in proper condition; then if it were necessary we could get those articles in the dark, or with our eyes shut.

Sometimes a housekeeper's life on the farm becomes very tiresome and monotonous. This should not be the case. She should divert her mind by reading some good book, or go on a visit to her neighbors, attend Farmers' Institutes, take part in them, they need you, for what is anything worth without a woman in it; or you might belong to a Housekeeper's Club, or a Domestic Science Association. Let me tell you what Mrs. S. Isadore Miner says about "country clubs for women."

"Geographically speaking woman's life on the farm, like her home, has frequently but four walls. She is bounded on the north by a cradle, on the east by a cookstove, on the south by a wash-tub, and on the west by a sewing machine. "But," you cry agast, "you wouldn't demolish those walls, would you? They are the bulwarks of the family life." No, but I would take a club, a woman's club, and knock a few window spaces into those prejudiced battened walls and let in the sunshine, the air, and give the perishing soul within a glimpse of God's beautiful creations without. Then when she was hushing the baby, kneading the bread rubbing the clothes, or stitching the long straight seams, she would have something besides sordid toil to think about."

A well ordered home should have plenty of good books, papers and magazines,—notice we said good—not this trashy literature that is not fit for anything good but to kindle a fire; but we should provide an abundance of pure, clean and instructive reading for our families. Have a musical instrument of some kind, an organ or a piano, and have music, also some good games of some kind. Then when the long winter evenings come there will be something to interest, amuse and instruct each and every member of the family. "By our thoughts we are fed and refreshed."

We, as housekeepers, should strive to read and learn more about our profession. We should take one or two papers or magazines on housekeeping, read them and put in practice what we learn. We need education in this line. Our grandmothers were successful in their work, by the strength of their muscle and sweat of their brow, but that is no reason why we should do the same.

Thanks be to invention, we now have so many kinds of machinery with which to help us in our work. These along with home conveniences and the application of "domestic science," will help us toward making ourselves the truest and best of companions for our families.

This age is one of advancement in all lines. Are we, as housekeepers, keeping step with the procession?

THE DAUGHTER'S PLACE UPON THE FARM.

By Mrs. Brilla H. Cartwright, Upper Alton.

The following paper was read at the Madison County Farmer's Institute at St. Jacobs, November 17, 1899:

The agricultural papers have, during the last three or four years, contained more or less discussion upon the subject, "How shall we keep the boy upon the farm?" It has become such a worn out argument that one of the great daily papers has portrayed in cartoon the means of keeping this slippery youth, for a time at least, upon his ancestral acres. It pictures him sitting with doleful countenance in a hammock. All work seems suspended and all hands are engaged in keeping this illustrious young man at home. Mother is fanning him, father is running to him with a glass of water, sister is reading to him, the hired man is polishing his shoes and the dog is his footstool. The result is not pictured.

Of course, without jokes, this is a serious matter and worthy of attention, but I am thinking of the sister who aids the others in their exertions to hold the brother in the home. Is she remaining there with more contentment than he? I have asked many farmers this question but they have all looked at me queerly and dismissed the talk with that suggestive wave of the hand, a shrug, wondering at my interest in a subject needing so little attention.

It was my privilege once to visit in a farmer's family which had consisted of four boys and five girls. They had received but the simplest education, caring little for books or outside information. It seemed a beautiful home, however, with a handsome house well furnished and well kept, and a goodly number of acres to sustain all outlay. The boys, nevertheless, had each at twenty-one years of age left the farm to seek other employment. Three girls had married, one choosing a merchant, another a clerk, and the third a mechanic. Of the two that were left, the elder said in conversation, "I tell you that when I marry my choice will not be a farmer." The younger sister agreed, and this was their explanation: "We work from morning until night for we can get no help to relieve us. When the roads are bad in winter we can not go out with any pleasure, and we see no one for weeks together. The boys are all gone, father is old and does not care to go out with us of an evening, and so we never can attend entertainments. We can not leave mother to stay a few days in town together, and there you have our situation. Is it any wonder we dislike the farm?"

Now where did their trouble lie and who was to blame for it? Their beautiful home was not cared for! Its surroundings of hills, trees and streams so longed for by care-worn people, weary of the city's interruptions, looked upon with indifference by these girls!

What is the daughter's place and her right upon the farm? Should I attempt to define them the difficulty of a confined bubble of air or a blocked up drill of water would be confronted. It is reasonable to presume that progression has just as surely struck the farm as it has anywhere else, and it is reasonable, too, that a girl's sphere has grown larger in these days of expansion. Thus, if her conscience will not allow her to leave her country home, as does her brother, the farm must be adjusted to suit her, else rural life will eventually become devoid of homes in the truest sense. We often read that environment counts for but little if an individual has real grit and personality; that we may dignify or disgrace obscure situations at our own will. This is true enough in most cases, but it is a rule, too, that home training and surroundings tell sufficiently in one's life to be a factor in any argument. Hence, the daughter upon the farm has a right to progressive and educated parents, who, from the beginning of her life, should so exercise their wisdom that she may know her welfare ranks first in their hearts.

It is her place to receive at their hands the best education that their time and means will allow; not a trifle here and there at one or two boarding schools after her country grades are finished, but an education which will fit her for a quiet life, if need be, and that in the absence of human companionship will render the fellowship of books her rarest pleasure. Educate her

enough that it will not make a fool of her for the common duties of life. Pope was not only a great poet but he was a very practical man as well. In a few words he once gave us the model of how to educate. He said:

"A little learning is a dangerous thing,
Drink deep, or taste not the Pierian spring;
There shallow drafts intoxicate the brain,
And drinking deeply sobers us again."

Here is where so many farmers err in their judgment of an education. They imagine that they will educate their children off the farm if they urge upon them large fields of development. The fault, however, lies at their own door in not supplementing book learning with an appreciative knowledge of the useful arts. Teach your daughter from infancy the incomparable art of making other people contented and comfortable; to put into the every-dayness of life the results of special training; to make the affairs of home excellent, not being eager to carry excellence from them.

It is very unnecessary to say once the educational problem is solved, what is or what is not the girl's place upon the farm. Many people thoughtlessly define her position negatively. They say it is not a girl's place to pitch hay, shock wheat or husk corn, and they are right in ordinary circumstances. Others even say it is not her place to make garden, drive a hay-rake, milk cows, nor to put corn into the horse's mangers, as though, perhaps, she were a creature to look at in a cage.

A safe rule, it would seem, is that if the daughter and her parents are mutually fortunate enough that she is able to remain in the home and render her young and energetic assistance, she may do anything that is necessary, or that her strength and good sense will allow.

A lack of appreciation of a daughter's help has much to do with giving her a discontented spirit. Never, in your dealings with her, forget that you, too, were young. I have seen parents sit for an hour recounting the frolics and pranks of their younger days, and in the next hour deny a child the means to carry out a youthful and innocent plan of pleasure. If, therefore, you expect your daughter's help in your tight places be her ally in her recreations. It is a rare case when young people are always contented with the calm and solitude that older ones enjoy. If you are too tired of an evening to be her escort to a party or an entertainment, manage to get her there safely and do not growl about it until she would rather face a bear than consult you about going.

It may worry you a little, but not more than the problem of how to get the best development out of those other young creatures on the farm—the calves. Let your girl know, too, that her work has money value. If she has a pocket book of her own rest assured she will be ready to drive a rake or binder, feed horses or do any useful thing when you are pushed or want to be off duty for a few days. She will not fail you. It is not her nature.

When a girl is discontented with her country home she is usually a prisoner there; a living monument to the narrowness and ignorance of her parents. I positively heard a farmer say once, and he was a man of comparatively broad ideas about raising calves, pigs and colts, that he thought the best way to prevent girls always "gadding" from home was not to allow them any knowledge of the attractions outside. A pretty compliment to his daughter's intelligence! Such ideas are the secret of the pitiful timidity and bashfulness so noticeable in many farmer's daughters after they have grown old enough to possess ease of manner.

Away with such notions! We want our girls enthusiastic in their love of home, even if it does keep us hustling to have them so. We want them also willing to found farm homes of their own when the right time and progressive Christian young farmer comes along. There are no women so true, so free from affectation and mannerism, so unspoiled by society's fads and nonsense as the women whose homes are with nature upon the farms and who have been allowed the advantages which those homes may afford.

Much that has been said will apply also to that boy mentioned at the beginning. Young men and women are very similar in their ideas except that the boy considers duty to himself, the girl duty to her parents.

THE FARMER'S DAUGHTER, HER RESPONSIBILITIES AND OPPORTUNITIES.

By Miss M. Jeanette Annegers.

To every life there comes the joys and sorrows, hopes and fears, duties and privileges, responsibilities and opportunities; yet, believe in no life more than that of the farmer's daughter on the lights and shadows so harmoniously blended to make a perfect whole.

That a great many girls do not enjoy the country is quite clear by the modern tendencies to crowd into the towns and cities; and the strange reluctance of many, to exchange a life of suffering and deprivation, there, to the freer, healthier and more comfortable existence in the country.

To be sure we can not picture country life today as Whittier pictures it in "Snow Bound" for the farm has progressed with every other branch of industry. So while it may not contain that quiet simplicity which our writers describe so beautifully of Old New England farm life, yet I think it is broader and more full of interests. One need but accept the bountiful beauties always at hand, and find in them the thousand sources of learning and pleasure, and the country life will be an ideal life for the girl who loves beauty in all its higher manifestations. Suppose there are no electric lights on the farm, there are gorgeous sunrises and sunsets which no money can buy. Many a girl in the city would gladly exchange the most luxurious upholstery, for a hammock under the trees with freedom to walk unchallenged over the grass. There may be no picture galleries to visit, but there are woods full of other treasury, blossoming orchards and grain fields that more than recompense for their absence, and what orchestra can equal the chorus of the birds in the early morn?

The childhood on the farm is especially full of privileges. She gets what every child should have, plenty of breathing space and playroom, and her close intimacy with nature makes her healthier physically and morally, and stronger mentally. Then comes the happy school days in the little country school house, the play house dinners under the shade trees from the tin dinner bucket, the hunt for wild flowers and the wading in the brook in summer, and the walk on the snow banks and sliding down hill in winter. She has no troublesome grades to worry about, she grows to womanhood with a life full of happiness and contentment, she neither knows or cares for else.

The education of most farmers' daughters now-a-days, is not complete in the country school. She is sent away to school to fit her for self support, sometimes, but usually for the sake of a higher culture—to get a broader view of life and people than could be acquired in her own little neighborhood. When these college days are over, when the glamour and excitement attending the commencement is a thing of the past and the dainty graduation dress is laid aside, when the first glow of home welcome is over and she has settled down to the quiet duties of every day life, 'tis then that she awakens to the fullest realization of the responsibilities and opportunities in the life of the farmer's daughter. To most of us, for a time at least, the responsibilities seem to predominate. The home seems so small and the interest there seems so trivial in comparison to the college halls with their intellectual surroundings and large circle of congenial friends. The life of the parents appears a bit precise beside the hours of girlish companionships in school. The common duties on the farm offer no scope and naturally a usefulness in the outer world suggests itself. It is a noble trait in any girl who realizes the necessity of bread winning, to put her knowledge to use for the benefit of those at home who have sacrificed so much for her. But this is not the case with the average farmer's daughters. It is her duty and privilege to remain at home. No girl is beset with such loving calls of toil and care as the farmer's daughter, and she should recognize, heed and obey these calls. Not a mother anywhere is so overburdened and needs the strong young arms to hold her up as a mother on the farm. An intellectual ambition often draws many a girl away from her true sphere in life. I do not think she should neglect these talents, but keep them subordinate to the simple duties found in the home. The home on the farm is not a cramped narrow sphere. It is always large enough for growth mentally, and grand enough to develop a deep and tender womanliness and that in the most sincere and natural way.

Some girls living in the country do not have the advantages of an education more than that acquired in the country school, and they very often feel that they are not getting the most out of life, but they should remember that the highest living come not from the head, but from the heart. High on the records of fame stand the names of so many grand good women who never saw the inside of college walls. Every girl living in the country has opportunities for self development not to be found elsewhere. The study of flowers and plants and birds and animals that the city girl must get out of books, the country girl gets direct from nature's own hand and these products of art and literature are not to be despised when learned in this way.

The idea used to be prevalent that the farmer girl knew very little outside of making butter and raising chickens. While these accomplishments are very well to know, yet she has a broader field. No girl need never be ashamed of being country born and country bred for this gives her advantages which no other experience can give.

In *The Ladies' Home Journal* Edward Bokt says: "Instead of depreciating life and saying that 'to live in the country means to live out of the world,' intelligent people know that the free untrammelled life in the country unquestionably gives broader views.

The human mind always grows to suit its surroundings. Originality, and a development for great things, has managed to check its growth where one can look with earnest eyes from nature up to nature's God."

In this age of the world the best of music and literature is within reach of all and the farmer's daughter need but have the desire for training and study and she will find herself as bright and intelligent and well read as anyone. Self development is far more lasting than mental training. What we find out ourselves we remember better than what is taught us.

Sometimes the farmer's daughter hesitates to continue her social relations with her school friends who live in the city because she thinks there is too great a difference between her plain country home and the luxurious apartments and conveniences of city houses, but she is robbing her friends as well as herself of a vast amount of pleasure.

A genuine farm house with a genuine country fare, crowned by a hearty country welcome is a thousand times better than any attempt to graft city ways where they were never intended, and you may be sure the city will enjoy the rest and change as much as the farm girl enjoys the conveniences and busy hum in the city.

Yes I know there is plenty of hard work in the farmers' home and no way out of it but just getting up early in the morning and doing it. Sometimes the physical weariness coming from these hard days of washing, scrubbing, baking, churning, canning and preserving from early morn till late at night, takes all the brightness out of farm life, but the new morn comes with rest, and gives us another day to weave in brighter colors to overshadow the crossness and failure in the previous day's work. After all the farmer's daughter doesn't mind the work so much. Work is the common heritage of all; but it is the lack of interests and pleasures and companionships outside the daily round of labor that makes her life so monotonous. The only way for the girl who feels that she is shut out from much that makes life worth living is to bring that outside world to her, to open her eyes for the many privileges and opportunities lying close at hand. The social life in the country is just what the girls make it and where they lead the young men will follow. People are always ready to put some pleasure into their lives, to do something they have never done before, if they are only shown the way to do it. If the days are dull in the country it isn't because the people want them so. It is easy for any community to get into a rut of dullness by just lying back and doing nothing to break up the monotony. Neighborhood comradeship, simply knowing people and learning the best there is in them is the foundation stone upon which the dullest neighborhood may be made a delightful place to live. Believe and recognize the common brotherhood and sisterhood which binds all men and women together. Every one has their good traits, if we will just find them out. To know people better, generally is to like them better. Then

don't be selfish with your books and papers. You do not enjoy the advantages of the city library, but lend and exchange your literature and you will have a circulating library in your own community.

I do think that a club or band or society of some sort adds so much to the life of the farmer's daughter in so many ways.

A perfect character can never be found in one human life, but in a group one contributes patience, another hope, one is impulsive and eager to act, and another is cautious and prudent, each one brings her gifts and shares it with the other, and all together they make a perfect whole.

In our neighborhood we have a circle of "The King's Daughters" composed of ten or twelve girls and the young married ladies. Our motto is "Do what you can." We meet Thursday afternoon every two weeks at our different homes and talk and work and plan how we can help the church, or any neighbors who are not blessed as we are, in fact do anything for the betterment of our community and ourselves. Then if this doesn't take all our time and means, we look for opportunities for doing good farther from home. Considerable interest has been taken in the Orphan's Home at Council Bluffs and Fresh Air Home for children. Our treasury is filled by dues and donations, and proceeds from entertainments and socials. When there is no sewing to do, or the business does not take up all the time of the meeting, we read some good book aloud or some one tells about some book she has read or some of the articles are discussed from the Silver Cross, a weekly paper on the general work of the order of the King's Daughters. Occasionally we have special meetings and invite the mothers and all the ladies in the neighborhood, and serve refreshments. The work of the social committee is an important factor. Some special form of entertainment is planned for the social and there is the anticipation and work in getting ready for it and the happiness and satisfaction in enjoying an evening with our friends. Outside the circle work there is the pleasure of companionship, the gossip of little personal affairs that make up so much of life, the lending of a book or paper or pattern, the exchanging of flower seed and household receipts. It isn't all the work done at these meetings that forms the most valuable part, but it is the meeting together, bearing one-another's burdens, sharing one-another's joys, all growing together into a fuller and richer life.

Church work should form an important part in the life of every girl and the country or village church offers so much to the farmer's daughter. The workers are not many and the multiplied home duties take most of the mothers' time so that very much of the church work falls to the daughter in the home and her hopefulness and enthusiasm makes her at once the inspiration of the older members. Her voice in the choir, though not the cultivated voice found in the city churches, yet it has a ring of joy that stirs the congregation to express their devotion in sacred song, or when her heart is moved by sorrow this tender pathos gives sweetness to the tones.

The Sabbath School depends upon her for that elder sisterly teaching and affectionate persuasion that wins the little ones to listen to the gospel message.

Sometimes the country church seems cold and uninviting. Perhaps because it is shut up six days in the week it has a neglected air about it. As the girl in the home adds many touches that makes the house more beautiful, so she might in the church, though it is only in the providing and arrangement of the flowers which are so plentiful in the country. Very often much of the whole care of the country church, keeping it clean, decorating it for special purposes, looking after the singing books, etc., falls to the girls, but where there are several, they can really enjoy this work together. They can feel that they have made the assembling of the people less a duty and more a pleasure because they have made God's house more cheerful.

In our neighborhood the work and management of the Sabbath School Christmas entertainment falls largely on the girls. While we are working at it, discouragements come, but when it is over we remember only the happiness and pleasure of the children and the enjoyment and good will of the older people and the satisfaction we had in giving these.

There is no greater happiness than that of making others happy and the farmer's daughter has so many opportunities for doing this. No matter how poor the store, there is the ever open way to help somebody and the joy that comes from knowing you have given another pleasure. Nothing can disturb the real blessedness of a soul bent on helping others. God made us farmer's daughters and placed us here to be an inspiration, a strength and a blessing, not necessarily to a whole world, but to those within our immediate reach whose lives are touched by ours.

It is better for a woman to fill a simple human part lovingly, better to be sympathetic in trouble and whisper a comforting message into but one grieving ear than that she should make a path to Egypt and lecture to the thousands on Ancient Thebes.

THE SANITARY CONDITION OF THE FARM HOME.

Read before the Shelby County Farmers' Institute, by Dr. W. J. Eddy.

MR. CHAIRMAN, LADIES AND GENTLEMEN:—The subject assigned me is of such great importance that it should be uppermost in the mind of the head of every family that lives on the farm—"The Sanitary Condition of the Farm Home." That does not mean simply the house but all the surrounding elements that go to make a home. Success in life depends upon good health. I care not how smart a man may be, if deprived of health he can do but little. That we have and maintain good health it is necessary that we study and acquaint ourselves with the human system and its needs, and know what safeguards to throw around it to prevent disease from attacking us. Science teaches us that diseases attack the human system in different ways and from different causes.

Two principal elements that go to break in upon the good health of humanity are foul and noxious gases and disease germs. These two things are to be dealt with from a sanitary standpoint. The earth's crust is composed principally of decayed and decaying animal and vegetable and inorganic matter, and from this is constantly arising gasses that require the effect of sunlight and wind to dilute and disinfect so as not to be detrimental to animal life. Damp ground favors the discharge of these gases and allows the earth to throw them off in such quantities that in spite of sun and wind they may have a harmful effect on animal life. Hence it is necessary in erecting the dwelling to see that the ground upon which it shall stand is higher than the surrounding ground, that it may be dryer and give off less poisonous material. The drainage of the ground around the house should be carefully studied, so that all water may pass away rapidly and not become stagnant. The first floor of the house should be from two to four feet above the ground so that the air may circulate under it and carry off all unhealthy odors that may arise. The rooms should be large and well ventilated so that free air may circulate through them at all times and yet have no drafts. Every house should be provided with proper and convenient means for bathing. It does not need an expensive bath outfit, but a simple device by which water, soap and towel may be kept handy to the bedrooms.

It is necessary to keep the premises around the farm house free from rank weeds and decomposing animal or vegetable matter. Barn-yards should be kept scrupulously clean and should be frequently sprinkled over with lime to disinfect any noxious material that may collect. The drainage from all barn-lots, pigpens, out-houses of any character, should be away from the dwelling and not towards it. This is easily made possible if the dwelling stands on the highest ground. No pig-pen or barn-lot should be closer than three hundred feet from the dwelling. This prevents odors from these places coming into the house. I have often gone to a family in sickness and found a foul pigpen within a few yards of the dwelling and often surrounding the well from which the family must take their drinking water. This is one means of committing suicide. You may think this an exaggerated statement, but the deaths that can be traced to this origin are far greater than the number of suicides committed by any other means.

I wish now to speak of the water supply. Animal life requires for its sustenance a greater amount of liquids than all other products combined. The weight of the body is three-fourths water. Hence it is necessary that this, one of the greatest means of sustaining life, should be absolutely free from poisons, noxious gases or disease germs. No surface well water is fit to be taken into the human system until it has been boiled and then most of it is not. Boiling kills disease germs, may evaporate foul gasses, but will not expel poisonous substances held in solution. The earth's surface being made up of decayed animal and vegetable matter and inorganic substances that frequently contain in them rank poisons, is bound to convey to the water passing through it some of these elements of poisons, because water has a great affinity for gasses and absorbs large quantities of them and will hold in solution large quantities of inorganic substances not in a gaseous form. Disease germs here find a ready medium in which to sustain life and an easy mode of transmission to proper places for development. If we allow this water to flow some distance through clean sand and gravel, it will filter out some of the unhealthy products and may take out all of them, provided there are no poisons held in solution or germs of disease. These are rarely filtered out. If the water comes from deep enough down in the earth to have been filtered through several beds of sand and gravel it will help purify it, but if any surface water oozes in from the top it will contaminate all in the well. The surface water will be drawn from a long distance and will carry with it the slime and filth through which it passes, and disease is the result of drinking it. On the farm we see this most particularly in malarial and typhoid fevers. Malarial fevers are caused from the poisonous gases and decomposing matter that affect the system, while typhoid fever comes from a germ that enters the system, and when it finds the vital forces reduced, it attacks the system. We can not be too careful in handling any of the waste matter from patients so afflicted. This should always be thoroughly disinfected before being thrown out or disposed of in any manner. Boiling water is one of the simplest and most effective means of disinfecting these discharges, or you can use a strong copperas water or a weak solution of bichloride of mercury, better known as corrosive sublimate. But be sure that something is used before the waste matter is thrown out, for the germs of disease, if they find a moist place, will remain alive for an indefinite length of time, and a year after may find their way into some surface well and remain there until the water in the well is reduced by drought and you begin to dip up from close to the bottom, when you get all these poisons in their concentrated form, and disease and death are the result. Through carelessness or ignorance you have failed to destroy an enemy that will in time destroy you. Hence, I say it is suicidal to use these contaminated waters from the surface. But I hear one ask: "Would you deprive us of drinking water; we are not able, all of us, to go down one or two hundred feet for a well, and we have not the time to boil the water and that gives it an unnatural taste anyhow, so what are we to do for this life sustaining element?" No, sir; I would not deprive you of water, but I would give you a pure article—water fresh from the distillery of nature that has no filth or disease about it and has no possible chance of containing disease germ.

I would collect the water that nature throws down in properly constructed cisterns, carefully filtering it that any possible gases that have been absorbed during its passage through the air might be eliminated. The cost of such a cistern is slight compared with a single case of sickness, even in actual money value, to say nothing of the anxiety and care placed upon the friends and probably the loss of life in the end. A good cistern that will hold from two to three hundred barrels of water can easily be filled during the winter and spring rains. Then by shutting the water off have the very choicest of water during the summer and no risk of contaminating influences to affect it. We are too careless with our own lives and health, we disregard the laws of nature and only look after our health when we are compelled to. In the matter of our own health we should stop short of nothing that will give us the best and guarantee immunity from disease. Some people may claim that cistern water is unhealthy on the ground that it contains no lime, which is necessary in the construction of the framework of the system. That is an erroneous

idea. We are constantly taking in lime in all the food products we take, and when we take an additional quantity, such as is found in most well waters, we are taking into the system a substance that is very hard to eliminate and yet must be eliminated. Upon the kidneys comes the great strain under these circumstances, and we often find concentrations of lime in them, forming what is known as "stone" in the kidneys, which is one of the serious conditions to be met with.

A word in regard to the filtering of this cistern water may not be amiss here: Dig a filter about three feet deep, I think is the most practicable; cement it well; put in the bottom of that six inches of clean white sand; above that put six inches of gravel; above that six inches of charcoal; above that six inches of gravel and sand—pure, clean sand. You have then a filter through which your water can pass with perfect freedom, and yet be well purified by the time it reaches the cistern. But this filter does not want to be left always after being once fixed. It should be cleaned and new material used every year; keep all filth away from it; examine both filter and cistern to see that there are no leaks, cracks or seeps in them; keep them perfectly cemented so as to keep out any surface water. If a person thinks they need a little lime in their system, they can add a little to their filter—just such a portion as they think they need. If the people will look systematically and carefully after their water supply, see that it is absolutely pure, they will fully realize the meaning of the old adage, "An ounce of prevention is worth a pound of cure."

WHOLESOME FOODS.

Read at the Adams County Institute by Mrs. Lucy B. M'Millan.

It is a question with some of us why some foods are called wholesome and others, which are far preferable and more palatable, are not wholesome. In this wonderful body of ours there is a constant round of waste and supply taking place. The body is composed of fourteen elements: Oxygen, carbon, hydrogen, calcium, phosphorus, sodium, chlorine, fluorine, iron, potassium, magnesium and silica. The waste of the body must be supplied by these elements—not in their crude state, but in combination—and every day supply must be forthcoming to replace the waste and maintain health.

When other things need repair we are careful to use the proper material. We would not patch a pair of pants with calico; we would not attempt to mend a tin pan with a piece of shingle nor patch a hole in the floor with glass; but every day this delicate system of ours is replaced with the wrong material for repair and some pain or inconvenience follows.

Now, wholesome foods furnish the right material in the right proportion, although there is only one food known which furnishes all the fourteen elements in the proportion for perfect health, and that is wheat—whole wheat, the grain with the outside shell, or bran, removed. When part of the grain is removed, as in grinding white flour, part of the elements are wanting, and therefore, part of the repair does not take place. The combinations of these fourteen elements may be simplified by dividing them into three classes: Nitrates, phosphates and carbonates. The nitrates are muscle makers; the phosphates are brain and nerve makers; the carbonates furnish heat for the body. In order to eat these three kinds of foods in the right proportion we must know which of them the foods contain, or, at least, which predominate in the leading foods.

We will begin with bread, the staff of life. White bread is carbonaceous and hence does not furnish any muscle, brain or nerve food, and is not fit for a three-times-a-day diet. The man who eats white bread alone will live only as long as the man who is shipwrecked without a morsel of food. In some countries condemned criminals are confined in solitary cells with only white bread and water for a diet. Before the day of execution arrives they die, sparing the hangman many nights of torturous dreams. Among the carbonates which contain little or nothing else, are butter, lard, fat, sugar, syrups, molasses and rice.

Among the leading nitrates are lean meats, beans, peas, barley, corn, oats, wheat and potatoes. Among the foods rich in phosphates are fish, cheese, nuts, oats, barley and fruits—especially figs and prunes. So, with the three classes we can make up an agreeable bill of fare, different for each day in the week, which would consist of wholesome foods. There is another class of foods which are wholesome and very useful in their place, called eliminators. They should be used in combination with other foods as their office is to furnish greater bulk without taxing the digestive powers or furnishing an overplus of either of the three classes named. These are cabbage, turnips, onions, squash, pumpkins, tomatoes and fruits.

Foods to be wholesome must be pure—free from adulteration—and there are many other conditions that so affect the food that it is impossible to make up a list that would be wholesome under all circumstances. The bill of fare would vary with the weather, the climate, the age, the state of general health, the amount of exercise taken and many other conditions. Instinct teaches us that we can not partake with relish of the same meal in summer that we can in winter. Science teaches the reasons why, and educates the judgment to discern between the conditions. We all know that many times, if the same provisions were handed out to two different cooks, one dinner might fail to tempt the appetite while the other would be tasty, palatable and nourishing; all is due to the manner of preparation. This is a safe rule to follow in the selection of foods. Fruits, roots and seeds are wholesome. Leaves are dangerous, for the reason that they are liable to be covered with animalculæ, and foods which grow next the ground are always full of malaria, and, of course are unwholesome. Melons, cucumbers, squashes, pumpkins and tomatoes are among the ground plants, though squashes may be trained up a tree or trellis and made palatable.

It would be wrong to close a talk on wholesome foods without reference to wholesome drinks, also, which perform so great an office in cleansing and purifying the system. There are three things required to sustain life—perfect bread, pure water and oxygenized air, without either of which a person can not live. They will keep the body healthy, the mind clear and the nerves strong. We drink water in which we would not think of cleansing a garment. Think of it! Who would put a delicate white waist into a basin of hard limestone water to wash it? The waist would look worse after than before. Neither will it cleanse the system—it is worse after than before, for the mineral in the water is deposited among the delicate tissues and the machinery impeded. Drink only soft, sterilized water. It is easily obtained by any family. The best food drinks are milk, bran water and unfermented fruit juices. Bran water is invigorating and delicious. Pour boiling water over bran, let stand six hours and then strain and drink—or make lemonade out of it. Try this when tired or weary. Much of the phosphate of the wheat flees in grinding and clings to the bran. We get this in bran water; it is a renewer of nerve force.

We may digress from, or even transgress Nature's laws for a time and then return to health, for sickness drives us to a wholesome diet; but as the nail withdrawn leaves the print, so the system marred by unwholesome food carries a scar—and it is a question how much each scar shortens life.

Several years ago in Washington City there were seven scientists who agreed that instead of dosing physics they would investigate the laws of nature. After a year's research they met again, each bringing a paper on the subject which he considered the greatest essential of life. Their topics were thrown on the table and without intent fell in such order that the initial letters spelled the word "Ralston." They formed a club naming it the "Ralston Health Club," which is still in existence, but instead of numbering seven members over nine million members, who are scattered over the face of the globe with headquarters still in Washington.

These seven scientists analyze all known food and drinks, and when a new food is presented to them for analysis, and is found to be just what it claims to be, perfectly pure, they then allow it to be named "Ralston." This is.

the origin of the Ralston Health Foods, which are found to be so nutritive and beneficial. The Ralston Health club book teaches the uses and values of foods and how to retain or regain health by the proper selection and use of wholesome foods and drinks.

Wholesome foods are placed before us every day and we choose the unwholesome. We prepare and place before our children doubtful combinations, when their growing bodies demand the most careful selection. Our duty is clear. Information must first be obtained, then some self-denial practiced. We must bring our bodies and our appetites under subjection, and as we are admonished in the Holy Scriptures, "Make our bodies a fit place for the indwelling of the holy spirit."

Prepare, eat and dispense wholesome foods and the body will remain in perfect health; the mind be capable of exercising thoughts whose influence will be felt for good; the nerve to be strong to dare and perform its part in life's battle, and the holy spirit will dwell in our hearts.

"A sacred burden in this life ye bear,
Look on it, lift it, bear it solemnly;
Stand up and walk beneath it steadfastly;
Fall not for sorrow—falter not for sin,
But onward, upward, till the goal ye win."

FOODS AND NUTRITION.

By Miss Francis North, Superintendent Julia F. Burnham Hospital, Champaign, Illinois.
Read before the Champaign County Farmers' Institute at Philo, January 18 and 19, 1900.

All animal bodies are made up of the four elements, oxygen, hydrogen, nitrogen and carbon, together with a small quantity of mineral matter.

Oxygen and hydrogen, in combination, form water, which enter into all constituent parts of the body, amounting to more than two-thirds of its entire weight.

Life is maintained by a continual process of oxidation, or combustion, producing heat and energy. To supply material for such production of vital force, and also to build up and repair the waste of the tissues carrying on the work, food is required. Our food, in whatever form we take it, is composed of some or all of the four elements named, in variously proportioned compounds.

It is the purpose of the digestive system to induce such alterations in our food as may fit it to become a part of the body, or in other words to prepare it for assimilation. "It is astonishing how vague are the ideas that many people have of why they eat food, and vaguer still are their notions of the necessity of air, pure and plenty. Once instruct the mind that it is the air we breathe and the food we eat which nourish the body, giving material for its various processes, for nervous and muscular energy, and for maintaining the constant temperature which the body must always possess in order to be in a state of health, and there is much more likelihood that the dignity and importance of proper cooking and proper food will not be overlooked."

The food of man varies in different regions of the earth in a remarkable manner; partly in accordance with the production of the earth, air or sea by which he is surrounded, and partly in accordance with the requirements of his body as determined by the external temperature to which he is exposed, his age, and the particular form of mental, muscular, or other kind of work he performs. No two persons are exactly alike in their expenditure of muscular and nervous energy, so no two will require the same amount or kind of food to repair the waste.

"A child at three or four years of age consumes about one-fourth as much food as it requires at adult life, for during this time tissue growth is very rapid, and if the child be healthy the bodily activity is relatively great. An active child at twelve or fifteen years of age who is growing fast and who is freely exercising may require and assimilate as much food as a man past middle age, and insufficient food and food of poor quality work proportionately more harm during the growing age."

A man who performs manual labor day after day expends a certain amount of muscular energy. A man who works with his brains instead of his hands uses nervous force, but very little muscular. Brain and muscle are not nourished exactly by the same materials; therefore the demands for food of these two classes will not be the same.

Brain workers who desire to keep in good health, should either take two hours of rest after a noon dinner or eat a light meal at noon and dine later in the day. This fact should be recognized in the arrangement of meals for college students. It is far better during the active hours of brain work to supply only such food as is necessary for prompt force production without calling upon the digestive organs for the expenditure of much energy in elaborating food which is only needed for storage."

With every emotion, and every thought and feeling, material is consumed, hence the more rapid wearing out of persons who do severe work, and of the nervous—those who are keenly susceptible to every change in their surroundings.

In general, by the term nutrition is meant the building up and maintaining of the physical framework of the body with all its various functions, and ultimately the mental and moral faculties which are dependent upon it, by means of nutriment or food.

Anything which aids in sustaining the body is food; therefore, air and water, the two most immediate necessities of life, are often so classed.

We need air, pure and plenty, that will furnish us a due proportion of the life-giving principle, oxygen, for the food we eat and digest can not nourish the body until it has been acted upon by the oxygen in the lungs.

Water is one of the necessities of life, it enters largely into all organic matter, and is an aid to the performance of many of the functions of the body, holding in solution the various nutritive principles, and also acting as a carrier of waste.

For convenience of comparison, foods may be divided in the nitrogenous and non-nitrogenous.

Each of these classes contain food material derived from both the animal and vegetable kingdoms, although the majority of the animal substances belong to the nitrogenous, and the majority of the vegetable substances to the non-nitrogenous group.

The nitrogenous foods contain carbon, oxygen, nitrogen and hydrogen, while the non-nitrogenous contain carbon, oxygen and hydrogen, but no nitrogen.

The nitrogenous or protein compounds are very important constituents of our food.

The proteins of various kinds furnish nutriment for blood and muscles, they also furnish material for tendons and other nitrogenous tissues. When these are worn out by use, it is protein which repairs the waste. Meat, milk, eggs, cheese, fish of all kinds, wheat, beans and oat meal are rich in this substance. The protein compounds include the albuminoids, gelatinoids and extractives.

The most perfect type of an albuminoid is the white of an egg. It is also found in the flesh of meat, in fish, milk, wheat as gluten and in other foods. It is soluble in cold water.

Most kinds of meat, milk, eggs, oysters and fish when cooked with reference to their albumen alone, we find are also done in the best possible manner with reference to their other constituents.

If you cook an oyster thinking only of its albumenous juices and endeavor to raise the temperature to near 160° Fahr., and not higher you will find it most satisfactorily as to flavor, consistency and digestibility.

The same is true of eggs done in all ways, and of dishes made with eggs such as custards, creams and puddings.

Albumen coagulates at a temperature of 52° below that of boiling water, therefore, the necessity of cooking eggs in water that is not boiling. Albumen when hard and tenacious is difficult of digestion; the gastric juices can not easily penetrate it; sometimes it is not digested at all, but when properly cooked is one of the most valuable forms of food. Since albumen is soluble in cold water, meat should not be put on to cook in cold water as the juices and the important flavors will be wasted.

In broiling or roasting meat the juices are retained, while in stewing they go more or less into the water.

In broiling steak place it over the hottest place of the fire so as to quickly cook a thin layer all over the outside, to shut in the juices and to form a protecting sheath of coagulated albumen over the whole. Then remove the broiler from the coals and do the rest of the cooking more slowly, that the heat may penetrate to the center and raise the juices to a sufficiently high temperature to soften the fibers, but not so high as to char the outside.

The second class of protein compounds comprise the gelatinoids, gelatine being their leading constituent. It is found in flesh, tendons, cartilage and bone.

Gelatine alone is not sufficient as a food, but in combination with other materials is an important article of diet for the sick.

The extractive or flavoring properties of meats and other substances are also classed with the protein compounds.

The non-nitrogenous foods include the fats and the carbohydrates. Fats are hydrocarbons, that is, they are composed chiefly of carbon united with hydrogen and oxygen.

Fats are heat producers, and good food for both nerves and muscles.

The amount of fat which is stored in the body is regulated to a great degree by muscular exercise, which if active, tends to prevent its accumulation. It serves as covering and protection in the body, lubricates and makes more plastic various structures of the body and gives rotundity to the form.

The carbohydrates are important food substances but are incapable of sustaining life. The principal carbohydrates are starch, dextrine, cane, sugar, grape sugar and sugar of milk. Starch is found in all grains. It constitutes half of bread and nearly all of rice, and the greater part of corn-starch, sago, tapioca, peas, beans, potatoes, carrots and bananas.

All starch in food is changed into dextrine and then into sugar or glucose by the process of digestion. To change starch into dextrine is an important point in cooking, because starch is not assimilated until the conversion has taken place, either before or after eating.

Sugar is a valuable nutriment, being very easily digested and absorbed; and are force producers.

I trust the time may soon come when our home keepers will make foods a conscientious subject of study.

A LEAF FROM MY COOKING SCHOOL NOTE BOOK.

By Eva Atkinson, Bloomington.

It may be known to all who are present that the members of the last Legislature of Illinois made an appropriation of \$8,000.00 for a Woman's Building on the State fair grounds, but only those who were so fortunate as to have a share in the work accomplished there can realize the true value. The main purpose of the building was to furnish a place where Domestic Science could be taught and demonstrated.

This building is admirably arranged. The first floor has a large free nursery for the care of little children. The appointments of this room are dainty and attractive. The little cribs with their snowy covers, the toys, the yard enclosed with neat wire fence in which were swings and hobby horses

for older children—all afforded comfort and pleasures to the little ones and a relief to mothers. This room was well patronized and proved to be very popular.

Adjoining the nursery is a large resting room with toilet accessories; separated from these by a wide hall is a large reception room fitted up with rockers, easy chairs, piano, and best of all, an old fashioned fire-place in which great logs were made to give forth light and warmth. For this comfort we are especially indebted to Mrs. J. W. Fifer, who was a member of the building committee. She wisely predicted the need of a fire in the chilly evenings of October, and last year the weather was so cool that it was needed in the day time as well.

A wide and easy stairway led to the second floor, where are located a large lecture room, a dining room, the model kitchen, two tea rooms and an office. On the third floor is the dormitory occupied by the teacher, matrons and young ladies in attendance at the school.

The president of the domestic science association of each county was requested by the state association to appoint one young lady from her county to attend this normal school, which was conducted by Mrs. Rorer, of the Philadelphia Cooking School.

THE DAY'S WORK.

Each morning a free lecture and demonstration was given in the large hall. In the afternoon a lecture was given to the young ladies and the lessons were applied in the preparation of the meals, which the pupils prepared and served. The evenings were spent around the grate fire. Here Mrs. Rorer was the warm hearted, sympathetic woman, and having a fund of information that was imparted in an entertaining and instructive manner.

One of the points most strongly emphasized was the economy in purchasing and using food materials. A lesson impressed was the necessity of arranging the kitchen to save steps and thus time, strength and nervous force to use in recreation, and therefore avoiding the fate of the farmer's wife who was sent to the insane asylum and whose husband said he "couldn't see what made his Betsy crazy, as she hadn't stepped out of the kitchen for 20 years."

LIGHT UTENSILS.

Another lesson was the advantage of using light, non-breakable utensils in the kitchen, and the necessity of taking proper care of them to make them last as long as possible. It must be remembered that the kitchen is the work shop and laboratory; the workman and chemist must not be limited in tools and material if we expect good work. The farmer does not expect to plant and harvest a crop with the same machinery, neither should the cook be expected to use one pan for washing and cooking the vegetables and afterward for washing dishes. A well furnished parlor is a luxury; a well equipped kitchen an absolute necessity to good living, and this good living can be obtained only by perfect cleanliness.

PREPARE FOR NEXT MEAL.

If housekeepers would think for themselves or instruct their cooks that it would be easier for them to make preparation, at the end of one meal, for the next, while they are obliged to remain in the kitchen, the meal following would be more quickly prepared, thus saving much anxiety and worry. For instance, if hashed brown potatoes are to be served for supper, let them be hashed carefully and set away, ready for use at the last moment.

A systematic planning of work a day or a week in advance will be found economy of purse, especially in arranging bills of fare, endeavoring to cook on ironing day those things that require the longest application of heat.

Like a doctor a cook should study her patients; first to be considered is the constitutional peculiarities and temperament of the individual. Such foods should be prepared as will resist the encroachment of any inherited disease, for instance, one inheriting a tendency to lung trouble should be supplied with plenty of albuminous foods and oils. By that is meant lean of meat, white of egg, olive oil, butter and cream. Bartholow says: "The food supplies to the organism may be so managed as to secure very definite therapeutical results, and by employment of a special and restricted method of feeding cures may be effected not attainable by medical treatment."

ACCORDING TO OCCUPATION.

After knowing the constitution we should know the occupation. It is truly said that "what is one man's meat is another man's poison." Had nature intended one sort of food to supply all the wants of man, one sort only would have been given.

Men under different conditions, in different climates and those following different occupations, must certainly have different foods.

The wise stock keeper does not feed alike his race and draft horses, nor his setter and pug. A display of this same intelligence among human beings would, in another generation, show marked improvement in the race. The soluble light diet so well suited to the quiet life of old age, would not suffice for the activity of youth.

Brain-workers indoors require less heat-food than out of doors workers. The commercial, the literary, the athletic, the clerical and the active life, each require a special modification of diet.

FOOD TO SUPPLY CERTAIN ELEMENTS.

In order to keep the body in a perfectly healthy condition, we must employ a wise combination of foods, and get them in proper proportions—for convenience our food is divided into three classes: nitrogenous, carbonaceous and inorganic.

The nitrogenous foods, such as lean meats, eggs, fish, milk and its product, cheese, lentels, beans, peas and the gluten of grains are converted into muscle and tissue. These foods are all digested in the stomach, consequently should not be given in conditions in which this organ needs rest.

Carbonaceous foods, such as rice, potatoes, macaroni, flour, sugars and fats, for heat and motion—remembering to vary the diet according to the season—not supplying so much heat producing food in summer as in winter.

Therefore, if we wish to develop our muscle, we must eat lean beef or nitrogenous food, if we wish to fortify ourselves against cold, we must eat fat or carbonaceous food.

The third class or inorganic foods, are water, salt, phosphate of lime and iron. All of these excepting salt, are found in our natural foods.

ARRANGING A DIETARY.

A moment's thought will show us that in arranging a dietary, the object is to supply the lack of any element in one food by using with it some other food containing the missing element. Although the foods of every day use supplement each other, many people do not think of the principle involved.

Why does butter go with bread? Because the gluten of the bread furnishes the albuminoid (which is nitrogenous) element needed in the body while the starch supplies the carbohydrates. But bread itself lacks fat and the butter supplies that element; so meat and potatoes go well together, while fat pork and potatoes, both being carbonaceous, do not form a perfect food.

A steady diet of pork and potatoes will produce consumption as the tissue building element is lacking and it must be supplied by using beans or some other nitrogenous foods with the pork.

HEAT IN COOKING.

The indigestibility of vegetable substances depends largely upon the proper application of heat. Cereals such as wheat, oats and corn, require long, slow cooking to burst the starch cells. These should be eaten slowly and thoroughly masticated in order to become well supplied with the digestive fluids furnished by the mouth secretions.

The Hon. Mr. Gladstone realized the importance of this when he advised chewing such food "once for each tooth." An act which has since gained the name of "the Gladstone bite."

Mothers of young children will recognize the difficulty of teaching them this habit; but they will find assistance by serving slices of hard toast with breakfast food and teaching them to eat these two together. This will secure the proper mastication of the cereals, thus avoiding intestinal indigestion, so common among children.

A PERFECT FOOD.

The whole wheat grain constitutes a perfect food. It consists of starch, gluten, sugar, gum, fatty matter, husk, water and salts, (potash, soda, lime, magnesia, phosphoric acid, etc.) The brain, bone, and muscle feeding element lies just beneath the bran, the heat and force producing element in the central mass. This bread is the "staff of life," while white bread is mostly starch. Do not be surprised, after feeding the child continuously on white bread, that his teeth begin to crumble, as the bone building element is lacking. Bread should be baked in single loaves that the starch may be thoroughly cooked.

THE POTATO.

The potato next to wheat is the most important food derived from the vegetable kingdom. It belongs to the starch vegetables and contains but little muscle forming substance, and therefore should be eaten with nitrogenous food. The nutritious part which is potash—a constituent part of the blood—lies near the skin, so use economy in paring.

This vegetable is more wholesome baked than boiled, but when the latter way is preferred, the boiling point should be kept up from the beginning to the end of cooking.

COOKING GREEN TOP VEGETABLES.

All green top ground vegetables should go over the fire in boiling salted water, be boiled a moment and then pushed back where they will simmer until tender. Cabbage, cauliflower, and their allies, and turnips, should be clear and white; green peas, beans and spinach a light green. The salt is added to harden the water and retain the firmness and juices.

If green vegetables are wilted, they should be soaked an hour or two in cold water. Split peas, dried beans and lentils should be cooked in soft water as the salts of lime, etc., coagulate the casein which these seeds contain. These vegetables contain both carbon and nitrogen, hence are a heat giving and muscle making food and are the most nutritious of all vegetable substances.

UNDER-GROUND VEGETABLES.

All white or under-ground vegetables should be cooked in boiling, unsalted water, the salt being added after, or when they are partly cooked. Rice requires rapid boiling; the motion of the water washes apart the grains that they may be soft, separate and dry.

Onions are nutritious and should be used once or twice a week. Always pour off the water in which they are boiled. The succulent vegetables, such as tomato, cabbage, lettuce, cucumber, celery, etc., may be used as salads.

The Spanish proverb is: That four persons are necessary to make a salad, "A spendthrift, for oil; a miser, for vinegar; a barrister, for salt; and a madman to stir it up." Cream and butter may be substituted for oil, but it will not take the place of oil.

COOK AT LOW TEMPERATURE.

Meats, eggs, cheese, milk, etc., should be cooked at a low rate of temperature that the albumen which they contain may not be made indigestible. The digestion, flavor and juiciness of meat depend as much upon the method of cooking as upon the quality of meat—even Kerrick beef may be made unpalatable by improper cooking. In cooking meat our object is to retain the nourishment and flavor, consequently to attain this end use boiling water or a strong, dry heat at first to coagulate the albumen, thus enclosing the meat in a water-proof case or crust, which neither permits the juices to flow out nor the water to penetrate within. In this way only is meat juicy and well flavored.

SAVE PATIENT'S LIFE.

Upon this principle of low temperature in cooking depends the life of the typhoid patient, infant, and others of equally weak constitutions. The recovery of a patient is often made difficult through the use of improperly made beef tea, while the infant is made a dyspeptic by using milk cooked at a high rate of temperature. The family cook should follow this principle as well as the trained nurse.

SERVING FRUIT.

Fruit should be served as fresh as possible, and is particularly wholesome if taken in the early part of the day. In fruit we have sugar, mucilage, vegetable acids, etc., which act as refrigerants, tonics and antiseptics, and when freely used at the season of ripeness prevents debility, strengthens digestion, prevents the putrefactive tendency of nitrogenous food and averts scurvy. No doubt a large part of this value is lost by the excess of sugar which causes fermentation.

Children should have plenty of fruit and should be taught to eat good, wholesome food. They will easily grasp the idea if the boy is told that he will make a better foot-ball player and the girl that her complexion will be improved. Children, as well as older people are often incapacitated for mental work by improper food.

MENTAL EQUIPMENT.

The mental equipment of a good cook is thus set forth by Ruskin: "It means the knowledge of Media and of Circe, and of Calypso, and of Helen, and of Rebecca and of the Queen of Sheba. It means the knowledge of all herbs and fruits and balms and spices; and of all that is healing and sweet in the fields and groves, and savory in meats; it means carefulness and inventiveness and watchfulness and willingness and readiness of appliance; it means the economy of your great-grandmother, and the science of modern chemists; it means much tasting and no wasting; it means English thoroughness and French art and Arabian hospitality; and it means, in fine, that you are to be perfectly and always ladies—loaf givers; and you are to see imperatively that everybody has something nice to eat."

EDUCATIONAL DEPARTMENT.

CONSOLIDATION OF DISTRICT SCHOOLS AS A MEASURE OF ECONOMY AND BETTER SCHOOLING.

By O. J. Kern, County Superintendent of Schools of Winnebago County, delivered at Rockford, January 16, 1900, before the Winnebago County Farmers' Institute, and at Mt. Carroll, January 23, 1900, before the Carroll County Farmers' Institute.

Mr. Chairman, Ladies and Gentlemen:—Permit me to say by the way of introduction that the consolidation or centralization of district schools is no educational "fad." It is not an untried experiment. Its feasibility and practical value have been tested in half a dozen different states, and not found wanting. Over thirty years ago the movement was begun in Massachusetts, and it has spread to New York, New Jersey, Ohio, Indiana, and at the last session of the Kansas Legislature the school law was amended to permit consolidation there. This township movement, the union of all the ungraded schools into one central graded school, is the logical result of new conditions, the effort to meet the demands of a higher civilization. No one can deny that the educational test is becoming more severe. The demand is for trained minds and hands, the ability to do something, and to do that something with the greatest possible efficiency. The last decade has witnessed a great progress in science; increase of wealth; a diversity of social and industrial problems. And to be able to cope successfully with these new conditions there must come improvement in our district schools; more professional training of the teacher and a deeper interest and sympathy of the home in the matter of training the child and developing character. The greater expenditure of the cities in the way of modern buildings, apparatus, libraries, trained teachers, etc., over the country is a fair measure of the superiority of the city schools.

Yet the bulk of the population is still in the country, and the great educational problem of the twentieth century is how to improve the district school; how to make the conditions such that the great number of children who will get no other educational training may be helped to subserve the purpose of popular education; viz: That there be an enlightened public opinion to give force to intelligent law. The duty of the hour for those in Illinois who believe that consolidation of the district school will better fit our boys and girls to meet the demands of a higher civilization, is to arouse the interest of the people and overcome that conservatism which tends to let things remain as they are. It has been said that the "worst enemies of the better are the good." History can furnish many instances of this in social and religious reforms. In education today we have these extremes. At the bottom is the man who does not believe in the education of the masses by universal education. At the top is the man who believes in reform and improvement of our educational systems to meet the changing conditions of life. Between the two is the great body of people who think the present state of affairs is good enough; no matter if it is more expensive; no matter if the results obtained are not at all commensurate with the expenditure of public funds. Many good people would resent the charge that they are opponents of a better system of schools. Not actively so are they perhaps, but passively are so by their indifference and apparent lack of interest in the district school. Very few ever visit the school, know but little of the condition of the building.

They don't know whether the seats, ventilation, and light are best arranged for growing children. They don't know whether there is a course of study for the school, how the program of recitations is, whether the teacher is giving helpful instruction or not. If you ask them about the school library, or apparatus they could not tell you. So my object is to quicken your interest in your school and arouse in you a desire for a better one for less money. It is far from my purpose to discuss the district school. It is with us. All honor to it for the good it has done. I have had experience with the district school. All the schooling I had till twenty-two years old was in the district school, three or four months out of the year, as my time could be spared from the regular work of the farm. The problem is how to secure better educational advantages for our country boys and girls. Especially important is this when we reflect that 90 per cent of the country children never get any schooling beyond that furnished by the district school.

Consolidation of district schools is the union of all the schools of the township into one central school and the transportation of children to this school at public expense. It need not necessarily be a union of all into one building. There may be two or three buildings even, owing to the conditions as to population, roads, etc. The two principal arguments, as my subject shows, are as a *measure of economy and better schooling*.

Let us notice some facts about the schools of Winnebago county. There are 118 school districts in Winnebago county outside the city of Rockford. Eight of these are village or suburban schools, leaving 110 distinctively country schools. In visiting your schools it has been my care to get the exact enrollment of the 110 one-room district schools. This has been done at a time when the schools had the largest enrollment for the year. Out of the 110 schools 42 had an enrollment of 15 pupils or less; 17 schools had an enrollment of 10 pupils or less; 9 schools had an enrollment of 7 pupils or less. Bear in mind that this enrollment does not mean the daily attendance. That is a different matter. Some schools I have visited recently that have an enrollment of seven or eight, have an average daily attendance of three or four. The statistics are not at hand to show what the average daily attendance is for all the year, but it is a safe estimate to say that 75 per cent of the enrollment is a fair average attendance for most of the district schools. A school of three or four pupils is about as dead as a live thing can be to life or spirit at all. A school of seven or ten pupils is not much better. Why people who are quick to take advantage of improvements and discoveries of a material character will still cling to an organization devoid of vigor and all that makes up rich intellectuality, is hard to understand, especially when it costs a great deal more in taxes to keep the old system going.

Let us look at the financial phase of the question. Take the nine districts that have an enrollment of seven or less, with an average attendance of four, we will say. Here are nine teachers in nine different houses, with four pupils each. What is the annual cost per child for education based on the average attendance? Harlem No. 2, enrollment seven, average attendance, say five, levied for school purposes last year, \$175, on an assessed valuation of \$38,835. The cost per child was \$35 per year. Harlem No. 9, enrollment six, average attendance, say four, levied \$200 on a valuation of \$31,422. The cost per child was \$50 per year at least. Harlem No. 8, enrollment seven, average attendance, say five, levied \$230 on a valuation of \$23,826; the average cost per child being \$46 per year. Harlem No. 7, enrollment seven, average attendance five, levied \$200 on a valuation of \$64,250; the cost being \$40 per child. Now if those four districts could be consolidated there would be one school with an enrollment of 28, average attendance 20, with classes numbering four to six each, where now there are only one or two. What would be the cost under the new way? One building to keep up instead of four is the first thing. Lengthening the school year another. Eight months' school, with a normal trained teacher at a salary of \$40 per month, would be \$320. To this add \$180 for fuel, apparatus, library books, etc., and the total cost would be \$500 on a combined valuation of \$158,333. Under the present system it costs \$805 on the same valuation, with but little, if any, expended for library or apparatus, as the modern school should be equipped. Then

consider the difference in the character of the one school as against the four. It seems strange to me that men will plead too high taxes as an excuse for not having the best teachers or putting libraries into their schools when consolidation would lessen the expense and give far better results. Let us notice other districts in the county. New Milford, No. 9, enrollment seven, average attendance five, levied \$250 on a valuation of \$12,696. The cost is \$50 per child. Burritt, No. 1, enrollment six, average attendance four, levied \$300 on a valuation of \$27,944; cost per child \$75. Pecatonica, No. 2, enrollment six, average attendance four, levied \$200 on a valuation of \$27,641; cost per child \$50. Pecatonica, No. 5, enrollment six, average attendance four, levied \$150 on a valuation of \$11,052; cost per child \$35 per year. Winnebago, No. 2, enrollment seven, average attendance five, levied \$100 on a valuation of \$32,154; cost per child \$20 per year. If these schools could be centralized, one two-room building would hold all nicely. Two teachers could do far better work than nine, because the school would be better graded and classified. There would be but one building to keep up instead of nine. The school tax would be less than half what it is now and far greater value received for money expended. There would be fewer teachers but better ones. Of course it is impossible to consolidate widely scattered schools as those are. But the principle remains the same for consolidating the schools of a single township into one or two buildings. Take districts Nos. 8, 10 and 5, Rockford. The total enrollment of these three districts is 61. Two teachers in one building can teach these 60 pupils with better results and less money than three teachers are doing now in three separate buildings. Roscoe districts, 8, 1 and 2, have a total enrollment of 45. One building with two teachers could serve the cause of popular education. Roscoe districts, 6, 3, 4, 5, and Harlem 8 and 2, is another illustration. Five teachers in one building could do far better the work of 8 teachers in 8 different buildings and at less expense. Other illustrations, Harlem 4, 7, 11, in one school; Shirland 1, 7, 2 and 4 as one; Seward districts 4, 9 and 10 in a single school or the entire 9 schools of that township in a central graded school. The principle will hold good that consolidation will prove a measure of economy and better schooling.

In support of the assertion that consolidation of district schools will give far better results, let me quote you from a letter received last June from Hon. E. J. Clapp, of Thompson, Ohio. Mr. Clapp is an ex-member of the Ohio legislature and rendered valuable service in bringing about school consolidation in Ohio. He has been identified with the growth of this movement in Ohio; is a practical business man; and his testimony should receive some consideration from us. Moreover he was a fellow townsman with Supervisor O. J. Cummings of Guilford, and I refer you to him for further information as to the character of this man. In his letter of June 5, 1899, to me, he says: In speaking upon this question I give the following reasons why we should centralize our schools:

First—By centralization we bring together all the pupils of the township, so get the inspiration that always comes from numbers.

Second—We have, under this plan, pupils large enough to form good strong classes, thoroughly graded as they are advanced, which we could not do under the district school plan. Permit me to comment briefly on these reasons as they are read. The two reasons above imply more interest and enthusiasm in class work. A good strong class calls for the best efforts of the individual, which a small class of two or three can not do. It provides longer recitation period, thus giving the teacher more time for instruction. It will bring uniformity of text books, thus securing unity of study.

Third. We have fewer teachers and better ones. Not being as many, we have the money to hire better teachers. In townships where we had 8 to 10 small schools, with as many teachers, we now have but three, and so get the best.

Fourth. We get daily delivery of mail in the country. The children at night take their mail home from school to any part of the township.

Fifth. We give to all the children of the township the higher educational advantages, when without the plan only about 10 per cent could ever go out

of the township to get that which we now bring within the reach of all. And the pupils are at home every night with their parents, where the moral as well as the intellectual growth of the child will be shielded.

This last reason is a vital one. The people of the country districts are entitled to receive the fullest benefits for money expended. Better means of education, better training, stronger characters, the possibility of all these must appeal to every parent and to every public spirited citizen of any community. A union central graded school with a strong high school course will enable the farmers to educate their children at home. The course of study may be so enriched that all of the farmer boys may be taught some of the fundamental principals of agriculture, horticulture, etc., without sending them away to a university to learn what may be learned at home. Such a township high school with good teachers ought to be able to teach the boys and girls something about formation, composition and care of the soil; feeding standards and selection of animals for the dairy; rotation of crops, constituents of plants, and fruit growing.

The farmers of Illinois are doing well in having a college of agriculture built up in connection with our State University at Champaign. But don't stop there. Let the influence of that work extend to every township in the way of an enriched course of study in the township union graded school and the result will be that more boys and girls will go to the university. The poor man who has been able to send his children only to the ungraded district school will have the pleasure of seeing his children given the best education the township can afford, and that at a less cost to his rich brother than heretofore. But let us hear the remaining arguments for consolidation.

Sixth. We convey the pupils to and from the school. In this way the better health of the child is secured. No wet feet and clothing; hence no colds and less sickness.

Seventh. Centralization means promptness in attendance; pupils always on time, no tardiness. Never late by this method; and promptness is fixed in the character of the pupil.

Eighth. We are able to get better results for less money. One central school building to heat and keep in repair instead of eight or ten.

Ninth. It solves the problem, "How to Keep the Boys on the Farm." We bring to the farm that which he goes to the city and town to secure. We are giving all the children in the country the higher educational advantages which mean a higher citizenship for all.

The possibilities in this last reason can not be measured. Such a school may become the social and intellectual center of the community life. With a library room, music, debating club, etc., our boys and girls will hesitate to leave home and such a school for the excitement of a city. But to proceed—

Tenth. Ninety per cent of the children in the country get only such educational advantages as they find in their own townships. So if we would forever secure the perpetuity of an American government we must educate the masses.

11th. If the farmer means what he says when he asks for economy in the expenditure of public money, then he should set the example by so expending the large outlay of money for educational purposes that we can get value received. There is not a school board in the county that believes we get the best results from our county district schools. If not, let us apply the remedy, viz: Centralization.

Of course the problem of consolidation of schools hinges on transportation of pupils to the central school. This will bring better roads, which have long been needed for all business. The farmers can get their milk to the creamery because there is money in it. The time has come for the farmers to see that there is also money in it for their boys and girls to get the best educational start to meet the demands of a more complex civilization.

The following is the way the transportation problem is solved in Trumbull county, Ohio: "The board divided the township into routes for conveying the pupils. There are eight routes which were let to the lowest bidder, the

bidder being required to give bond for the fulfilling of the contract and also for good conduct of himself and the pupils carried, and further to provide good, comfortable, well covered vans in which to carry the children. Also to furnish blankets and robes for the same. The eight vans carry, on the average, about twenty pupils each. The children step into the van at the roadside and are set down upon the school grounds. There is no tramping through snow or mud. The longest distance traveled by any of the vans is about six miles and the shortest about three miles. The average cost per van per day is \$1.09. The carriers are required to have the children on the school grounds by 8:45 a. m., which does away with tardiness, and to leave for home about 3:45 p. m. Our school has been in session several months, and we are where we can make a fair and close estimate of the year's expenses. Taking last year for comparison we find: Number of school age in township, 235; number enrolled in school, 185; average daily attendance, 125; cost per pupil for the year, \$19.32. Under the new way: Number of school age, 241; number enrolled in central school, 190; average daily attendance, 165; cost per pupil for the year, \$15.'

This is for one county only. In Kingsville township, Ashtabula county, they report as follows: Old plan (districts) cost \$22.75 per pupil per year; new plan (consolidated) cost \$12.25 per pupil per year.

The following is an account of a system of transportation in a township in Portage county, Ohio: "The school house is centrally located in the township. With a mile radius and the school house as a center a circle is drawn. All scholars who live within this circle attend school at their own expense. A second circle is drawn with a mile and three-fourths radius. All scholars who live in the belt between the two circles receive \$1.00 each per month to pay for their transportation. All scholars who live outside the second circle receive \$3.00 each per month for their transportation. Each school family provides for its own transportation in its own way. Transportation in this way costs the township less than half when hiring vehicles. Under centralization and this system of transportation, the township attendance rose from 65 attendance on eight schools to 95 attendance on the single central school. The township has one of the best high schools in the state. After paying for the new central building in the fifth year there was an actual saving to the township of \$750.00. For the present year there was a saving of \$1000.00 over what was expended when single ungraded schools of only eight grades and this when they now pay the superintendent \$800 and each teacher \$50 per month, and the high school assistant \$65 per month, and run a kindergarten extra."

Now, if Ohio, Indiana, Kansas, Massachusetts and New Jersey can do that why not Illinois? If it be important that the country boys and girls of those states be given the benefit of the high educational facilities, why not the youth of this state have the same opportunities? Justly have we prided ourselves in the past on the district school. Changing conditions of life, the demands of a higher civilization demand the evolution of the district school—the people's college—into the township graded school—the people's university. Such an evolution must come. The spirit of the twentieth century, the inspiration of grander, nobler things in national thought and character urge us to make the most of our opportunities. With consolidation will come better roads, daily mail delivery, the enrichment of country life, and economy in the expenditure of money for educational purposes. Let all think seriously on this. Surely the intelligence and good common sense of the people of Illinois can solve the same problem under like conditions as the people of other states. I thank you for your patience.

DOES OUR PRESENT COUNTRY SCHOOL SYSTEM GIVE AS MUCH ENCOURAGEMENT
TO REMAIN ON THE FARM AS IT DOES TO ENTER THE
TRADES OR PROFESSIONS.

Read at Wayne County Institute by Miss Minnie King, Fairfield.

Some have gotten the impression that our schools of today are trying to make teachers of all the boys and girls or to train them for some profession. But they are those who have not carefully observed the work being done by

our schools. The schools are to educate the boys and girls, to help each one to get sufficient learning that he may be able to help himself. The things taught in our schools are what every one should know, whatever his occupation may be after he leaves school, and the one who chooses the farm life finds a great many things which he has learned at school to be of more benefit to him than it would be had he chosen some profession. For one can not enter any profession without special training for that particular work. The time is coming when the successful farmer will be the one who has most learning, the one who has attended some agricultural college and had training in his line of work just as the professional man. The great difficulty is that too many rely on the old belief that but little learning is necessary for a farmer. We find few farmers who think that the boy who is to be a farmer needs as broad and thorough an education as his brothers who are to be merchant, lawyer or minister. There are too many who think that farming is an affair of muscle only, and that the best farmer is he who labors from daylight to dark from the beginning to the end of the year. While every hour has its duties, they are not all muscular, and the farmer who would wisely succeed must have time for mental improvement as well as for physical labor.

To dig is easily learned, but to learn how, where and when to dig most effectively is the achievement of a lifetime. There are men who have toiled early and late, summer and winter, with great energy and strength, through their forty years of manhood, yet have failed to secure a competence, not because they have been unfortunate, as they are apt to suppose, but because they lacked the knowledge and skill, the wisdom and science, that would have enabled them to make their labor tell most effectively. They have been life-long workers, but they have not known how to work to the greatest advantage. Each of them has planted and sowed enough to have sustained him for the remainder of his days, but when the time came for harvesting, his crops were deficient. One year too much rain, the next too little, now the frosts, then the insects have injured his crops and left him in the downhill of life still toiling for a livelihood.

The great need of our country is agricultural education, through which most of the obstacles which we now encounter in farming can be overcome. To know how to farm with success we must know something of the scientific principles of farming. The man who knows how to make the most profit with the least amount of labor and capital, who understands how to make the most of his land without impoverishing it, is truly scientific.

But some may ask, where can one get this knowledge? The "observation-work or nature study," which has been already introduced into our country schools is a step in the line of agricultural education. When a child studies the plants, how they grow, what promotes or hinders their growth, when he knows the composition of the soil, knows what part of the plant is used for food and why; knows that out of wheat we get so much starch, gluten, and bran, and knows something of the way corn grows, then he is thoroughly interested in the food which sustains life.

While with all the work which we already have crowded into our schools we can give only a short time to these sciences, enough can be given to arouse the child's interest and to get him to think, and when we have done this it is all we can do. If the child has learned to think for himself he will put his thoughts into action.

Some have formed the idea that our schools are training the boys and girls for some work which will lead them away from our country homes to the city. But such is not the case. Our schools are to fit the pupil for life; to develop the mental and moral powers, to put his faculties in training, to inspire him with the high motives of life.

A great many think that all schoolwork should have in mind the future occupation of the pupil, and that in early schooldays he should select his vocation in life and at once begin to prepare for it. But it should not be, for in our country we find few persons who can not adjust themselves equally well to a number of employments and be successful in whatever occupation they may see fit to choose. The teacher or even the parent can not afford to train the child for a certain occupation.

A good general education is necessary for the pursuit of any occupation, and with this let the child choose for himself that which is most suited to his acquirements and tastes.

RURAL LIBRARIES.

Read at the Farmers' Institute at Amboy, January 9, by Miss Frances LeHome, of Elgin, Chairman Committee on Libraries of the Illinois Federation of Woman's Clubs.

I was very glad to accept your invitation to meet with you today, as I am so much interested in my subject that I consider it a privilege to be allowed to present it.

I am glad to follow Hon. Mr. Griffin. He has emphasized even more strongly than I can do two of my chief points. I shall take his words as my text and emphasize two ideas he presented: "The cities of the United States are growing at the expense of the country," and "No country can have a strong government while a part of the people are ignorant."

It may be we do not need to talk much about these things in Lee county, which has more than the average of intelligence, but we do in other counties where there is a large proportion of foreigners.

In Kane county, where I live, for instance, the original settlers were of a superior class from New England and New York. Now the farms in a majority of cases are sold or rented to foreigners so that the pupils in the rural schools many of them hear no English spoken at home.

In Cook county, between Elgin and Chicago, the third generation are now living in settlements where German is the prevailing language. In such neighborhoods the schools are poor and few books are read.

In Lee county you have 175 rural schools with only about half of them supplied with libraries and few of them with any sufficient number of books.

Pupils in these schools that have no books for supplementary reading and reference, have not half the material they need for the education you desire to give them, and they will feel the effects of this all their lives, as your stock would feel the effects of being half fed while young.

Good schools and plenty of good reading will do more to check the rush of young people to the cities, we think, than any other plan. There is no life so honest, so independent, so free from the worry and rush that kills, as is that of the farmer, and yet we find the young people turning their backs upon the farm home to try their fortunes in the mad rush and whirl of the city.

I come before you today to tell you of an experiment some of us are trying in the hope that it may help solve two problems: how to Americanize our foreign citizens; how to keep the young people contented on the farm.

The subject assigned to me, as given on the program, suggests the nature of the experiment. The Woman's Clubs in the cities gather together the books from their homes that the children have outgrown, or that are no longer read, and send them in libraries of fifty each into the rural neighborhoods, placing them in rural postoffices, or stores, or railway stations and, most commonly, in schoolhouses, when the teacher will act as librarian.

Kane county has thirteen of these libraries, Champaign county ten, Bureau county three and McHenry county eight, nearly all placed within a year.

In the last named county two enterprising young men, who have charge of schools in separate townships, have received each four libraries from the Woman's Clubs of Riverside, La Grange, Oak Park, etc., and are circulating them with a view of arousing an interest and establishing a township library in each township, to be supported by the two-mill tax.

After giving a talk on this subject at a Farmers' Institute lately, one farmer says to me, "Your committee is doing good work, one of our troubles is that our men want to go to town every evening and Sunday, to the injury of our horses and the unfitting of themselves for their work next day. If they have interesting books at home I believe they will be content to read, as all that many of them want is change and entertainment, which the books will give."

Another source from which you can procure a library, if you wish, is the State office of the Farmers' Institute at Springfield, where you can apply to Mr. Hostetter, as you will see by the notice on this program. There are fifty admirable books, sent in a strong box that can be used as a bookcase. Many of them are especially suitable for the use of farmers.

Probably every home represented in this room has all the reading matter desired, but doubtless you all know if half a dozen to a dozen families within your reach who are not so favored. In some cases these are intelligent people, not able to buy the books and magazines, and many do not want them, but when once they begin to read are as eager as the others. In both cases the young people are probably reading the cheap and harmful books and papers that are sent everywhere. An official at one of our insane asylums said to me recently, "If you can give reading matter to the farmers' wives, who do not have it now, I believe there will not be so many come to such institutions as this."

Do you, farmers of Lee county, want any of these libraries? Can you give us the names and addresses of any whom you think will take charge of one of them? If so, you can either send them to me in Elgin, or you can apply to Mrs. E. C. Parsons and Mrs. Dr. Law, of Dixon, president and corresponding secretary of the Phidian Art Club, or to Mrs. J. L. Hartwell, wife of your president, who represents the Dixon Woman's Club. If you are nearer to Amboy make your application to Mrs. Dr. Chase, of Amboy, who will either find the books here or send the application to me. We may ask you to send your wagon for the books to such place as we shall decide.

The result of your receiving half a dozen to a dozen of these libraries will be that your young people will become contented at home. The place where the books are kept will become a center of social life, where the young people will meet to read and talk over what they read. The average intelligence of the county will be much higher. It will on that account become a desirable county for residence, and you can sell your property for much more than the average price within the next ten or twenty years, and, above all, your homes will be happier for you and for all your family.

THE COUNTRY SCHOOLS.

By R. P. Briegal, of the Columbia School, Columbia, Illinois, before the Monroe County Farmers' Institute, November 17, 1899.

Mr. Chairman, Members of the Monroe County Farmers' Institute, Ladies and Gentlemen:—The subject which has been assigned to me is a subject of such importance and such magnitude that volumes may be written upon it. It is impossible to do full justice to it in the few moments which I shall take for my talk. However, I want to congratulate the farmers of Monroe county on the fact that while they are here engaged in discussing the material side of the farmer's life they have not forgotten the intellectual side of it. Who will deny that one new idea concerning the intellectual or spiritual welfare of your child is not of paramount, yea, greater importance than a new idea about the methods of raising wheat or the rearing of cattle? Many of our farmers are prone to look upon education as of secondary importance. We are raising our pumpkins and potatoes large enough, but our brains too small. What we need is a higher appreciation, a greater realization of the value of education. This recalls to my mind that beautiful old story of that aesthetic and cultured people—the ancient Greeks. Jupiter of Olympus once summoned before him the greatest, the wisest and best of his subjects that he might place upon his brow the Crown of Immortality. The painter and the sculptor came forward and told how they created a love for the beautiful. Jupiter shook his head. The actor told how he purified the human passions and emotions. The poet perpetuated the heroic deeds of valiant sons. The orator swayed the multitude by his great eloquence. The statesman played the great game of state in which the pawns were living men. Jupiter frowned. Observing an old man in the gathered multitude Jupiter called upon him to speak. The gray haired school teacher arose, and in tremulous tones replied: "All these were once my pupils." "Crown him! Crown

him! for the true and faithful teacher deserves the highest gift in my power to give." What a noble tribute to the teacher and his work! What a value placed upon education!

Fellow farmers, we all know that in our community forty or fifty years ago 'most any man with energy could succeed very well in an agricultural, mercantile or even a professional vocation. How is it today? The race for existence has become, and is becoming still more competitive. Only the fittest survive. If the demands upon our education in the past quarter of a century have so vastly increased, how will it be in twenty-five years hence, when your son and your daughter will be an active participant in the great race for human existence? He will go forth to battle in that armor which you have prepared and clothed him in. He will be weighed in the balance; shall he be found wanting?

The question for us then is, "What can we do to still further improve the country school? What can you farmers do to bring about this result?" In this State we have the district plan. Leave your school districts as large as they are. There is a tendency in this county to divide up school districts. It seems to me this is not a good plan. A small district means little money to spend for school purposes, and little money usually means a poor school. Enough money brings a school house of the right kind, good furniture, long term, a good teacher, satisfied patrons in short success. Then again, in a school of ten or fifteen pupils the proper spirit is lacking. There are not enough pupils in each class to promote a healthy school emulation.

Provide for your children a good, warm, comfortable and attractive school house with modern apparatus and school supplies. You all know what an advantage it is on the farm to have suitable tools and machinery, so do not expect your teacher to get along without the labor-saving and time-saving supplies. Look to the outhouses and the water supply that the moral as well as the physical welfare of the child does not suffer. Have good roads to the school house. Take your children to school in a vehicle when the weather is bad. You are earning good wages while so occupied.

Last, but not least, hire a good teacher. You will ask, what is a good teacher? How may we know a good teacher? Generally speaking, all of our teachers are good. Here again only the fittest survive. Poor teachers are constantly weeded out, and among the beginners only the best are being admitted to the profession by superintendents. When you have a good teacher pay her good wages. Give her your moral support. Speak well of her whenever you can. Let her know when she is doing well. These things encourage her, and will in the end redound to the benefit of your child. Visit the school. Let it be known that you are interested in the school, and in the work of your child. Encourage school exhibitions, debates, spelling matches, reading circles, etc. Allow your children to take part in them. Such experiences "round out" a country pupil, and give him more of that polish, which his isolated condition otherwise tends to deprive him of. Encourage school libraries. No new innovation in the country school for the last ten years has done as much good as the introduction of a suitable school library. Appropriate annually, five, ten or twenty dollars for this purpose if the money can not be raised any other way. The district should own the library. Make the school the intellectual center around which the educational forces in the district revolve. Elect good intelligent men to the office of school director. Do not carry your petty differences and personal prejudices into the school, nor allow them to enter into school politics.

You farmers are the most fortunate people in the world in at least one respect. You are living where you can raise honest, industrious and virtuous boys and girls, on a farm. The world needs your sons and daughters to fill the responsible positions, to furnish the industry and moral stamina in our fabric of social economy. Do not therefore neglect to equip them with that other requisite, intellectual fitness. Educate your child the best your means will allow. And rest assured that when your locks are sprinkled with age, and you are soon to be called to your reward, a comforting and consoling thought will be that you have left your child a heritage, the best of all, a good education.

THE FARM AS A MEANS OF EARLY TRAINING.

Paper read at Johnson County Farmers' Institute, New Burnside, Ill., Nov. 6, 1899, by Mrs. G. B. Murrah, President of Creal Springs College, Creal Springs, Ill.

In the discussion of "The Farm as a Means of Early Training," I must be permitted to draw my conclusions from a model farm with model surroundings, and to consider training as a triculture.

If it be true that our early training leaves strongest impress upon us, determining to a great extent our success or failure in mature age, then it may be of some interest to know what are some of the results that we may expect from such training, and what influence it may have on the life and the character of the individual.

FREEDOM:

In all training freedom is a necessary element. Man is born free. He loves the pure air, the sunshine, the morning breeze, the evening zephyr. He delights in the forest excursion, the chase, liberty of physical exertion and vocal expression. All these are conducive to health and growth. They develop muscle, give lung volume, invigorate the circulation, quicken the sensibilities. To the youth how delightful the chorus of birds, how pleasant the cool shade, the clear brook. How beautiful the colors of lawn, tree, and flower. These influences continually about him make him contented, happy, both important conditions of healthy growth. Nature also furnishes manifold lessons of industry in the busy life of her creatures buzzing and chirping around the pathway of the child. He learns of latent power in the unfolding bud, of a mighty force in the bursting storm. To him these are wonderful manifestations, lifting the soul into touch with the soul-divine, which pervades all nature.

TIME.

On the farm there is time for growth, time for sleep, time for exercise, time for study. The distractions of society are avoided. Evenings are apt to be spent in rest or study. The year half devoted to physical activities, half to literary pursuits, each in its turn furnishing recreation for the other, has a tendency to balance mind and body. This balancing is very important in child growth, furnishing physical strength to support the period of study, and mental alertness to direct the labor of home and field. The rural home and surroundings furnish a perfect gymnasium for the child. In the directing of proper activities of body, no system of calisthenics has ever equaled farm labor in promoting healthy growth of body; while the proper relations of parts in standing, sitting, walking, are a part of the mother training in any model home.

The town or village school may have a well graded course of study, proficient instructors, costly buildings and ample equipments, yet, if there be no gymnasium, the fullest culture expected from such advantages can not be secured. The body must bear up the mind in all its activities, and if it have not proper exercise, it becomes an imperfect support. With poor advantages for exercise, often not even a play ground, the school walk no further than across lots, no wonder that children come out of the school thin and pale. Not so in the rural school where fields and hill-slopes are the athletic grounds. The body is vigorous and the mind properly supported.

TRUSTINESS.

A most important element of character is trustiness. This is developed naturally in agricultural pursuits. The regular performance of duty on the part of each member of the home begets a habit of industry. In the child it develops habits of trustworthiness in work and in study, determining largely the success in the mastery of fundamental branches in the rural school. This element of character becomes more and more prominent in college life, where a large per cent of those who may be depended upon in class and society are boys and girls from the country.

Few farmers can afford to have their children idle. The most successful are those who know best how to utilize all the forces at their command. The early service of children not only adds to the producing power of the home, but it develops habits of industry in the child which are conducive to both health and growth, and which are easily transferred from body to mind when the occasion demands. Children who are "diligent in business" at home and in the rural school, make our best pupils in college and the most reliable members of society. In short, they make men and women who may be depended upon in home, church and state.

HARDINESS OF BODY.

Tasking a muscle to its utmost develops toughness of sinew. This tasking must be done on the farm. Planting, growing time, harvest, storing time—all these require steady work and vigorous action. Such activity as develops hardiness of body is closely allied to that mental activity which produces strength of intellect. The boy whose childhood has been given up to easy pursuits and much leisure is poorly qualified to bear the mental strain of a college course of study. Not so with the boy on the farm. Accustomed early to difficult tasks he grows more and more hardy as these tasks are multiplied; and in study he is apt to manifest a mental persistence which is constantly reinforced by his physical powers of endurance.

INDEPENDENCE.

The farmer is independent. He grows all necessary food products, has them fresh, in variety and abundance. He knows nothing of the unrest of the man who consumes as rapidly as he earns. He experiences not the solicitude of the man who has spent his last dollar and knows not where he may earn the next. Nothing of the distress of the wage earner when sickness or other calamity befall him and he out of employment. However much may be said of the "hard times" of the farmer, even admitting that present legislation is against him, still he is independent. If alert, he constantly grows a surplus, and may exchange it for materials of clothing and shelter. His children are taught to be self-reliant, to store necessities for the future. They feel an air of contentment in the home, and learn to exercise a wise forethought for themselves and those depending upon them for support.

ECONOMY.

Removed from the temptations to a useless expenditure of money, the farmer's child is not apt to form the habit of spending money. The family must economize if they succeed, not only in their expenditures, but in the close employment of their time, and in the consumption of products. This is a most valuable training for children. They easily transfer time saving in work to close application in study, and do not expect to spend or consume money or its equivalent in a useless way. In college, boys and girls from the country give little trouble in government, for they are usually employed in a useful way. They can usually complete their classical course on a small dowry, often earning their expenses.

SUPERIORITY OF THE RURAL SCHOOLS.

Public sentiment is largely in favor of the town school, and not a few of our people are outspoken in disparaging the country school. In some districts in the southern part of our state, farmers move periodically—into town in the fall, out of town in the spring. They leave or sell at a sacrifice, crops, live stock, and forego the opportunity of improving houses, lands, fences and barns through the winter months, all for the pleasure and profit of being patrons of town schools. These good people crowd into tenant houses, crowd their children into the schools, and have them taught at public expense, while all their taxable property is elsewhere. This has grown to be a great injustice to the regular or lawful patrons of the schools; but it does even greater harm to the man who thus intrudes himself into the town school.

In fact the town school, in many respects, is inferior to the rural school, or the rural school may be made to answer the demand for a common education in a better way:

First—Emulation is easier in the rural school. The younger pupils, being in the same room as the older ones, have continually before them the work of the older pupils. While they do not understand all that is passing, they, observing the pleasure of the older ones and the satisfaction of the teacher, are stimulated in the preparation of present work, and receive an additional impulse toward efforts for promotion.

Second—The course of study is not crowded in the rural school, too much is not undertaken, more time is given to fundamentals, less or none to a smattering of the higher branches. In the town school, the coveted prize is the diploma; in the rural school the goal of ambition is a thorough mastery of the fundamental branches.

Pupils who do thorough work in model rural schools can be admitted to college—academic work.

Third—Advancement in study is not apt to be ahead of physical growth in the rural school. The farm is the gymnasium, axes, shovels, and saws being the dumb-bells. Exercise being vigorous, study is vigorous.

Fourth—Preference in moral influence is given to the rural school without question. All the vices that linger around the traffic in intoxicants and emanate from it, are so many object lessons to familiarize the child with sin. For

“Seen too oft, familiar with her face,
We first endure, then pity, then embrace.”

Would that the moral atmosphere of some of our village streets might be renovated, and the light of peace and purity shine into all places darkened by sin and blackened by iniquity.

CROOKEDNESS.

An unfortunate adjustment of things is imminent. Farms are being deserted or left to poor management. Large tracts of land remain unoccupied; yet towns are crowded, cities are crowded, beggars are at the door, and tramps and bums roam at will. The fact is, we have been educating and legislating away from the farm. A great tide of young people have been pressing into the professions and the shops; farming, the chief business of the country is belittled; the home overlooked.

Young men and young women who could adorn the teacher's profession, are taking “short cuts,” for the office or the shop. Girls whose intelligent service is needed in the home, are posing for “a six pence” in the doorway of a candy shop. Young men leave fine opportunities on the farm for a fourth class position at measuring rags and weighing bacon. Many young ladies who are plodding at housework would succeed at music or painting. The only remedy for all this crookedness is education in its fullest sense. Develop the boy and girl in the three-fold sense—body, mind and spirit, then let them follow the strongest leadings of their nature, and they are apt to be successful and happy.

The tendency to disparage the country church is most hurtful. Indeed it is true in many villages that religious services are made so commonplace that the youth lose their reverence for them, while the large but less frequent gathering in the country, often wields a wonderful influence for good. Turning into rural pursuits, those in the trades and professions who have mistaken callings, would add materially to the producing power of the country, and be a cure for many ills. The over-crowding of any one occupation sets adrift many unfortunate ones who suffer in their misguided efforts to find easy living. The world is full of restless spirits who seem determined to secure a livelihood without any effort to produce capital.

Let a millionaire make an appropriation for the public benefit, and a host of money hunters apply for a commission to carry the money to the proper place. Let a public work be opened, and a throng of wage earners flock to

the scene, often leaving behind opportunities for better support than they gain. These restless spirits need to settle homes in the rural districts, where they may contribute to the producing power of the country, and secure the blessings of free air, plain food, and common-sense instruction for their children.

THE RELATION OF THE SCHOOL WORK TO LIFE ON THE FARM.

Extract from an address delivered by Frank H. Hall, Jacksonville, Ill., at the Kane County Farmers' Institute, Geneva, Ill., Feb. 7, 1900.

Recognizing the vocational interests of pupils is not narrowing in its effects. It is quite the reverse. There are hundreds of pupils in the State of Illinois who will leave the rural schools never to return, at the close of the present term, who would gladly go back for one, two, or even three winters, if they could there be taught the elements of agricultural science. Should they go back because of the vocational bearing of the work done, and remain three winters more in school, they would be broader and stronger in every way. A small portion only of the time would be devoted to that which has a direct bearing upon agriculture. This being given as an appetizer, and energizer, they would work vigorously along other lines as well. Someone has said: "Purpose directs energy, and purpose makes energy." Once let the boy feel the influence of working for a life purpose, even though that purpose be nothing higher—what is higher?—than that of making himself into a self-supporting and helpful citizen, by "tickling the earth with a hoe, and making it laugh with a harvest"—once let him feel this influence, and he's a new boy. He's been born again. He puts off the old. He puts on the new, and he girds himself for the battle with the weeds and his own small vices. I have myself seen such transformations. I know whereof I speak. Give a boy that which he knows and feels will be helpful to him in his chosen vocation, and straightway he wants that along with it, which will be helpful to him as a citizen, as a man. You can not give him much of value if you attempt to give it the other way about. He instinctively refuses what you, as an educator, have to offer, until you have presented that which leads directly and unmistakably to some bread-winning activity. He doesn't propose to be cultured and starve to death. His living being prospectively provided for, he trusts you as a leader. He remains in school. He does many times as much in the so-called culture studies as he otherwise would have done. Thus, thoughts of vocation in the school are not narrowing in their effect. They arouse interest. They lead to activity, enthusiasm and breadth.

But what of agricultural science shall be taught in the rural school?

Says Ex-Governor W. D. Hoard: "I know of nothing in the curriculum of the average country school that tends in any manner whatever to encourage a farmer's boy to be a farmer. On the contrary very much that is taught therein, rather leads him to believe that there is not sufficient scope for his intellect and ambition in agriculture." (Let us at least teach him that there is sufficient scope for his intellect and ambition in agriculture.) "I would have our country schools in particular," continues Gov. Hoard, "teach agricultural chemistry. I would have them teach the scholars the meaning of all those terms which are now so generally used in the discussion of agricultural questions. It would have been worth much to me," says the Governor, "had I been taught at an early age the meaning of carbohydrates, protein compounds, phosphoric acid, potash, etc., and the relation of these substances to the business of every day farming."

Surely the young man ought to learn in school something of the chemical elements that go to build up the plant which he proposes to cultivate. He should know which of these come from the soil and which from the atmosphere. He should know which of the soil elements have a money value as plant food and which have not. He should learn to talk intelligently concerning the conservation of the fertility of the soil; the physical and the chemical effects of fertilizers; nitrogenous and non-nitrogenous foods; the

fertilizing effects of mulching and of snow; fermentation in the manure pile, in the silo, in the vinegar barrel, in the cream vat, and in the bread pan. He should be taught the views of the educated veterinarian concerning wolf's teeth, the burning of the lampas, chest-founder, the losing of the cud, and hollow horn.

He will not know so much about these things as do the advanced pupils of the agricultural department at Champaign, but he may know enough to become interested in them. Once thoroughly interested, he may himself become a pupil in Prof. Davenport's classes. Who can tell?

The agricultural science in the rural schools may not be taught after the most approved methods, and yet be of immeasurable value. If only the pupils could go out of the school able to read, and desirous of reading, the best parts of the best agricultural papers, and the bulletins that are issued from the Experiment Station, the benefits to the farmers as a class would be beyond measure. Little libraries (not all farm books either, my teacher friends), little libraries would be found in the farm houses, and in the long winter evenings the farmer and his sons would sometimes sit at the feet of Prof. Henry, Prof. Forbes or Prof. Davenport. All the work of the farm would show intelligent management. The amount of joyless labor, the curse of the world, would be greatly diminished. Each young farmer, happy in his work, might hope to be the world's benefactor by making two blades of grass grow where one grew before.

Why is not such work done in the rural schools? Simply because the teachers do not know how to do it. The traditional course has been modified less in the country than in the city. The environment of the pupils and the prospective vocation of certain classes, as has been shown, have been wisely taken into the account in the curricula of the public schools of the cities. But the special environment of the children on the farm, and the vocational needs of prospective farmers have, for the most part, been overlooked.

The rural schools have taken their cue from the city schools. The work in the latter is planned for pupils with an environment of brick and mortar. The vocational trend of the city schools is towards the professions, towards mercantile life, and, more recently through the introduction of manual training, towards the mechanic arts. The city high schools are in close touch with the colleges, the technical schools and the universities. The link that should connect the rural school with the agricultural department of the university is wholly wanting.

In the year 1896-7 the university offered to the young farmers of this State a "winter school of agriculture." From all this great State in which agriculture is a main industry, from Cairo to the Wisconsin line, and from the Mississippi to the Indiana line, only fifteen students were found who cared to avail themselves of this opportunity. (It is quite possible that half of these were from Champaign county.) The next year the number increased to twenty-three.

The trouble is not that the course offered is an inferior one. It is not that the boys who will remain on the farm are incapable of receiving the instruction provided for them. It is because the connecting link is wanting—the link that should join the farm home through the rural school with the University of Illinois. How may this link be supplied? Pardon my boldness in attempting to answer this question.

There is a pedagogical department at Champaign and an agricultural department. Is not a union of these possible, out of which there might be born a regiment of teachers for the rural schools, teachers familiar with at least a few of the elementary facts of agricultural science; who would go out into the schools of our State and put the needed link into the chain? This done, and the university would reach and favorably influence hundreds of the future farmers in the Mississippi Valley, where it reaches one now. It would thus reach the "rank and file"—the young men who are soon to take charge of affairs on the home farm, and the young women who are to contribute their lives to social service mainly in a rural home.

Will it pay? Why, the intelligent handling of milk, the saving of one-half the potash, phosphoric acid and nitrogen that are now being wasted in the manure pile, judicious feeding and breeding of stock, would put into the hands of the farmers of Illinois in a single year enough beyond what they now receive to paint all the farm buildings, to repair the fences, to mow the weeds along the roadside, to put fresh paper upon the walls of the houses, to buy the necessary books for the children and replace in the treasury of the University of Illinois every bond illegally hypothecated by the treasurer of the Globe Savings Bank! Will it pay? A thousand times, yes, and in more ways than one—in something besides mere dollars and cents. It will give culture—not culture for culture's sake, but culture for use; culture that shall enable its possessor to contribute more to the comforts of his own home and to the well-being of society than he otherwise would have done.

Are the pupils and the people ready for the putting of this link into the educational chain? Ready and waiting. Upon this point I speak with positiveness. Twelve years of work along these lines in a rural school, twelve years as a schoolmaster in close touch with the children of farmers and dairymen—young people who expect soon to take the places of their fathers and mothers on the farms; many of whom are now tilling the soil, milking the cows and rearing families in this and adjoining counties—twelve years of peculiar and interesting experience in Kane county, make me know that the young people in the rural schools will welcome and appreciate this kind of instruction—make me know that there are hundreds of boys and girls who are leaving the schools now and who would remain if this kind of instruction could be provided near their homes—remain, and along with the somewhat technical instruction would receive more of general reading, more of history, more of literature, more of civil government, and become thereby broader and more efficient in all the relations of life.

The normal schools, too, should assist in this. On this point let me quote again from one who will be recognized as an authority by the teachers—Samuel T. Dutton, of Brookline, Mass. He says: "Farmers in the East can no longer raise corn and wheat at a profit; but if skilled in the arts of horticulture and if versed in agricultural chemistry, they may find in their own local markets an abundant return for their labors. Why should not agricultural chemistry be taught in our normal schools? Why should not special schools for young farmers be established to foster our great natural industry? Something has been done by private munificence and industrial corporations in planting trade schools. But the time has come when the State must meet this issue promptly and generously, if we are to keep pace with the nations of Europe."

Our normal schools are provided for at the public expense. The farming interest contributes largely to their support. It is but just that the special needs of prospective farmers should be recognized in the equipment of the teachers that are sent out from them.

Were I talking to a body of teachers I should now take up my manuscript and bow myself out. But to farmers there is need of another word. The public schools, including the university, were never better than today. The movement in these, as elsewhere, has ever been forward, not backward. They deserve your cordial, generous support. There is little, if anything, in the curricula that ought to be omitted. It is all practical in the highest and best sense of the term. The sins of the teachers are mainly sins of omission, rather than sins of commission, and no one is more anxious to correct any wrong tendency than the teachers themselves. We must not for a moment regard all culture that does not bear directly on agriculture as useless for the prospective farmer. Well bred Berkshires are fine, but there is other music than Berkshire music that may well receive a share of the attention of the young people. Drawing is a mode of expression which may be as useful to the farmer as to the mechanic. On its artistic side it has something for you and something for me and more for our children. The school library is as important as are the blackboard and crayon. In it should be found, side by side, books of information and books of inspiration. The child on the farm as well as the child in the city should be given the open door to the larger

libraries that are being so generously provided. He should not simply learn to read, but he should learn what to read. He should acquire a love for reading. He should be brought into touch with the great world books, with history and biography, with literature and with the love and pathos and humor of the best prose and poetry. To do this he must be generously provided with books, both in the school and in the home. Liberal provision must be made for the library of the rural public school. You may safely follow the lead of your county superintendent and your teachers in this as indeed in most matters pertaining to the school life of the child. Sometime, perhaps, there will be a larger proportion of male teachers in the rural schools, and these may be better equipped for making the school life touch the farm life. But this is not all that is necessary. Not only should some of the school work have a direct bearing upon the farm work, but life on the farm should through the schools and the churches and the farmers' institutes and society and art and especially through literature come into touch with the life of this great, throbbing world.

The aim of the schools should be individual culture for purposes of social service. The aim of the individual should be such use of his culture as will contribute to the well-being first of his family, then of the neighborhood in which he lives, and of the world at large.

Valuable service should be at once the purpose and the crowning glory of the school work and of the life work.

FARM DEPARTMENT.

AGRICULTURAL DEPARTMENT—WHAT IT IS DOING FOR THE FARMER.

By Wesley Rankin, Media.

As an introduction to the consideration of the question in hand let us consider a few historical facts in regard to the department of agriculture, also the scope and object of its work. We often think (if we think at all) of the agricultural department of our government as something that has come into existence in the closing years of the nineteenth century. But not so. We find on investigation that the department in one form or other is as old as our nation itself. It had its origin in the suggestion made by Washington, while president, that one branch of the national government be organized to look after the interests of the farmers.

Franklin, while in England as the agent of Pennsylvania, sent home silk worm eggs and mulberry cuttings to start silk growing in this country. When the representatives of the new United States government went to foreign lands they followed the example of Franklin. The number and value of new seeds and plants sent home by them so increased that Congress was induced to make the trial of a small appropriation to carry on such work. The first appropriation was only \$1,000, but it proved successful and the department has had a steady growth ever since.

The work now carried on by the department of agriculture was formerly under the supervision of the commission of patents, but the work of the department grew to such proportions that it was organized into a separate department in 1862. The head of the department was known as the commissioner of agriculture until the year 1888, when this department was raised to the first rank in the executive branch of the government. Norman J. Coleman was the first secretary of agriculture.

As to the scope of the work of the department of agriculture it would be almost needless to speak, as it deals with almost every subject that could be of any interest or service to the farmer. Let me state the object for which the department labors as given in the year book for 1897.

The department of agriculture was organized to help farmers to a better knowledge of production and its tendencies at home and abroad, so as to enable them to intelligently meet the requirements of home and foreign markets for material that may be profitably grown or manufactured on American farms. In other words, its existence is justified only so far as it helps the farmer to be more successful. The question naturally arises: "What is it doing to make the farmer more successful, or what is the department doing for the farmer?" If all of the time allotted to all of the different subjects in our program today were at my disposal it would not be sufficient to give more than a passing notice to the many things that the department of agriculture is attempting to do for the farmer. To be more practical and to keep this paper in reasonable length I will only mention a few things of interest. But first let me enumerate the different bureaus, offices and divisions of the department as now organized. This will give a better idea as to the diversity and extent of the department's work.

The first on the list is the weather bureau, and following in order we have the bureau of animal industry, division of garden and grounds, chemistry, entomology, statistics, botany, account and disbursements, forestry, biologi-

cal survey, pomology, vegetable physiology and pathology, office of experiment stations, of fiber investigation, division publications, office of road inquiry, division of agrostology, of soils, section of foreign markets, the library and the museum. There are twenty-one different departments in all. To illustrate the practical value of the work done by these different sections of the department take that of the weather bureau. We see the forecast of the weather displayed in our postoffice. We pay little heed to them, probably, but it is quite different along the sea and lake coasts. It is estimated that in the fall of one year, that of 1894, but for the warnings of the weather bureau a total of 2,305 vessels, valued at \$36,000,000, would have put to sea in approaching storms and heavy loss would have followed. Of course the farmer is only indirectly benefited by this. Anything that reduces the risk of transporting his crops and stock across the ocean to foreign markets reduces the cost of such transportation, and hence he may secure a higher price for his produce. More directly is the farms benefited by the bureau of animal industry. We all know how eagerly the people of foreign countries watch our animal exports and meat products for some excuse for excluding them from their markets. And quite often, if no real cause for complaint can be found, they manufacture one, but the bureau of animal industry is making this more difficult.

In 1890 inspection of American cattle by American inspectors stationed in Great Britain was inaugurated. This was necessary to check reports of disease of cattle arriving in that country from the United States. Many cases reported by the English officials as pleuro-pneumonia were shown by the American inspectors to be only a non-contagious form of lung trouble. The condemnation soon ceased.

As is well known the bureau of animal industry has been, and is still, making many experiments with a view to the eradication or suppression of most of our animal diseases, notably Texas fever in cattle and cholera in swine. In the year book of the department for 1898 you will find an exhaustive description of the experiments conducted at Fort Worth, Texas, by Illinois men. These experiments were made to test the value of dipping infected cattle in dynamo oil and sulphur, to kill the ticks that cause the Texas fever on northern cattle. These cattle were shipped and placed in pastures near Rockford, Illinois. They failed to infect northern cattle placed with them, so this experiment, though not conclusive, indicates that the bureau is on the right track in its experiments. But probably of more practical value to most of us are the investigations the bureau is making of the swine breeder's greatest enemy—hog cholera. In Farmers' Bulletin No. 24 you will find something of interest in regard to swine plague and hog cholera. These two diseases of swine are very much alike in their symptoms, but if we expect to doctor successfully we must know with which of these diseases we are dealing, hence I would urge every hog raiser to secure Farmers' Bulletin No. 24, which gives all symptoms of both diseases, cause and manner of contracting them, also treatment that has proved of benefit in many experiments.

As has been said before, it is useless for me to make any attempt to even mention the many practical ways that the department of agriculture is helping the farmer, so possibly it will be of interest to some at least to know how to avail themselves of the valuable information that they are entitled to. For every taxpayer can and should read this information. As before mentioned, the department has a division of publications. This division is vested with the duty of disseminating the information collected by the other divisions and bureaus. The publications of the department are of three kinds: 1. Serial publication. 2. Scientific and technical reports. 3. Popular pamphlets. Of the first two classes but few copies are printed and are not for general distribution. The farmers' bulletins are small pamphlets which treat in a practical manner of subjects of particular interest to farmers and are printed in large editions, it being the intention of giving them the widest possible circulation. These bulletins are free and may be had by writing to the department of agriculture. The following farmers' bulletins just published show the diversity of subjects treated: No. 95. Good roads for farmers. No. 96. Raising sheep for mutton. No. 97. Experiment station work. No. 98. Suggestions to southern farmers. No. 99. Three insect enemies of shade trees. The writer of this paper has received over 5,000 pages from the division of publication.

A RENTER'S CORN CROP.

Read at Vermillion County Institute by E. J. Taylor, of Ridgefarm.

In the summer of 1898 my brother and I rented what is known as the Terrance Clark farm, one-half mile south of Woodard Station, containing 444 acres. Also 45 acres three quarters of a mile east of said farm, belonging to Mrs. Lang, all black prairie soil, having been cultivated in corn and small grain several years.

We were to farm as one man and divide the proceeds—he to have two-thirds and I one-third after paying the rent, which was one-half of the corn, two-fifths of the oats, \$75 in cash for the meadow and \$25 in cash for five acres of the Lang land.

We were to sow 160 acres of oats and plant 268 acres of corn—the remainder being in pasture and meadow.

In submitting my figures I will endeavor to estimate, as near as possible, the cost of raising the corn crop had we hired men with teams and tools and allowed the customary wages for their labor, then give the actual costs and proceeds of the farm, net including wear on tools and horses and board.

I know the oats crop is a little out of the way of my subject, but, as a farmer has horses to feed, hands to pay and oats can be sown and harvested when nothing can be done in his corn crop, why not apply the proceeds of the oats crop to the expense of the corn crop?

It should be kept in mind that the season for producing the crop was remarkably favorable and the crops above the average raised on the farm.

One hundred and eighty acres was broken in the fall of '98 and the remainder the next spring, which at the customary rate, \$1 per acre, would cost \$268.

We began on April 24th to prepare the spring breaking by starting the smoothing harrows, and on the 25th we began to prepare the fall breaking by starting the disc harrows.

After using the smoothing harrows the crossway and starting them the straightway on the spring breaking we considered it in good condition for planting and started the planter on April 27th.

After double discing, or in other words, lapping half, we thought the fall breaking in good condition for planting, and having sufficient ground ready by the 28th, we started a second planter.

After the corn was planted we harrowed it all both ways before it came up. It took sixteen work days for from four to five men to prepare the soil and plant the crop, which at \$2 per day would cost \$150.

In addition to this it took one man ten days to prepare forty bushels of seed corn, as the quality was very poor and had to be picked cautiously, therefore we will say the seed costs \$25, making the total cost of planting the crop \$175, which is 65 cents per acre.

We cultivated the corn four times, which took thirty-four work days for from three to six men, or 134 days for one man, making the cost, at \$2 per day, \$268, which is \$1 per acre.

Two hundred and sixty-eight dollars for breaking, \$175 for preparing and planting and \$268 for cultivating, or \$711 is the total cost for producing the crop, which is \$2.65 per acre.

Our convenience to market, one-half mile, enables us to receive just as much for our corn at harvesting time on the farm as if delivered, provided we furnished the crib room, scales and a man to weigh for us. Therefore the harvesting and marketing can be estimated at the harvesting price.

The farm yielded 67½ bushels per acre, or 18,145 bushels of corn. I think hands could have been procured at 2½ cents per bushel, which would have cost \$453.62. In addition to this the man to look after the cribs and weigh would have cost \$25, making a total of \$478.62 for harvesting and marketing the crop, which is \$1.78 per acre.

The entire cost of the 268 acres of corn then is \$711 for producing it and \$478.62 for harvesting and marketing it, or \$1,189.62 for the entire crop, which is \$4.44 per acre.

Now, what is left the renter for overseeing the work, as he did nothing else in this estimation?

He has left, after paying his rent, 9,072 bushels of corn, which at harvesting time was worth 25 cents per bushel, or \$2,268, less the cost of producing, harvesting and marketing it, or \$1,078.38, which is \$4.03 per acre.

In my estimation of the actual expenses and receipts of the farm it should be kept in mind that there were two of us making hands almost every day the entire season and that our wages are not considered.

We broke 160 acres last fall for next year's crop and the expense for doing same is included in last year's crop. Therefore we will allow it to balance the fall breaking of '98.

For horse feed to produce the crop it took \$75 for hay and 1,000 bushels of corn, which could have been procured the preceding corn harvest for 25 cents per bushel, or \$250. The total cost for feed then is \$325.

We hired four hands by the month until the corn was plowed three times and then three until after threshing. For these we paid a total of \$259.50. In addition to this we paid \$40 for day labor. We paid 2 cents per bushel for harvesting 11,011 bushels of corn, or \$220.22. We secured a boy to look after the cribs after they were full enough to need attention, which cost \$7.50, making a total of \$227.72 for corn harvesters, \$259.50 for labor by the month, \$40 for day labor and \$227.72 for corn harvesters, or \$527.22 is the total cost for labor.

To produce the oats crop it cost \$114 for seed, \$36.60 for twine and \$115.50 for threshing. In addition to this there was \$25 cash rent to pay, making a total expense of \$291.10.

The total oats crop was 7,754 bushels. Our portion of this was 260 bushels raised on the five acres for which we paid cash rent, and three-fifths of the remainder, or 4,496 bushels, making a total of 4,756 bushels. The crop at threshing time was worth 17 cents per bushel, or \$808.52. In addition to this we sold a straw stack for \$34.42, making the total receipts of the oats \$842.94. Then \$842.94 less \$291.10, or \$551.84 is the net receipts of the oats crop not including labor.

As previously stated, the corn crop was worth \$2,268 at harvesting time. The gross receipts of the farm then is \$2,268 for the corn and \$842.94 for the oats crop, or \$3,110.94.

The amount expended to produce this was \$527.22 for labor, \$325 for feed, \$15 for seed corn, \$114 for seed oats \$36.60 for twine and \$115.50 for threshing, or \$1,113.35.

Then \$3,110.94 less \$1,183.32, or \$1,977.62 are the net proceeds of the farm after paying rent, or, in other words, what we received for our labor, use of the tools and horses and board for the hands.

In the first estimation it cost $6\frac{1}{2}$ cents to raise a bushel of corn. The renter's bushel costs him 13 cents. In the second estimation it cost $3\frac{1}{4}$ cents to raise a bushel of corn and $6\frac{1}{2}$ cents to raise a bushel of oats. The renter's bushel of corn cost him $6\frac{1}{2}$ cents and his bushel of oats cost him $10\frac{1}{2}$ cents.

ARE THE ILLINOIS FARMERS MAKING THE BEST OF THEIR OPPORTUNITIES?

By Wiley M. Deweess, at Platt County Institute.

Agriculture has made much progress during the past half century. Better methods have been inaugurated; better machinery has been put into action; more brain power has been employed; unproductive has been transformed into producing lands. But notwithstanding all this, the black rich soil of the Illinois prairies are capable of higher cultivation and greater productiveness. And time with its ever changing necessities will compel us to cultivate more thoroughly, economize more closely and produce more abundantly.

The question then arises from what source will the initiative steps to this higher cultivation emanate from? We would say it should come from our rural schools. The farmer from his taxes supports them; in turn he should receive from the school that which should further develop and improve the condition of the profession of agriculture. We should teach our boys and girls in these schools the elementary principles of the compositions of the soil and the requirements and characteristics of plant life. Germany recognized this years ago and today the poorer classes are taught the compositions of the soils and the needs of plant life. So when they come in contact with a refractory piece of land their knowledge is such that the needed elements are soon detected and the remedy applied. This is the secret of the German's success as an agriculturist.

We are very apprehensive that, as Illinois farmers, we are sadly neglecting our rural school system and the opportunities they afford us to develop practical and successful agriculturists of our boys and girls. Our agricultural colleges, with their broader education and scientific knowledge, is worthy of our most hearty approval. But do not forget that it is but a small per cent of our children who can have the privileges of the colleges, while all may have the opportunities of the summer school.

Again we may ask, are we making the best of our opportunities in trying to comprehend clearly our relationship with other great industrial interests? Do we greet the diversified industries as our friends, or are we inclined to mistreat them as a common enemy? The former is seldom the relationship, while the latter is too often true.

When complaining the loudest against the transit companies which carries the surplus from our farms, finding markets many miles away for our perishable products, which must otherwise be lost, taking our meats and grains to far off lands and the islands of the sea, opening up new markets and making greater demands for our products, do you ever stop to think what would be our condition without them? Or among which class, the farmers or the transit companies, do you find the most financial failures? Stop the railroads and water transportation, stop the telegraph, telephone and daily press just one week and there would be such a panic and distress among the people as the world has seldom known before.

Our geographical location, with its natural advantages for markets and our absolute security in time of war, all enter into our opportunities for the future. What are they? Here in Central Illinois, with a soil richer in natural productiveness the world does not possess, with railroad transportation to the gulf, to the great lakes and to the sea coast, with water transportation through rivers, canals and great lakes in direct competition with railroad transportation, with our far internal location giving security from all danger of devastation in time of war. All of these are conditions we must meet and be prepared to measure up to the requirements when the emergency occurs, for we are fast approaching the time when we will be looked upon as the centralization of that great store house from which armies must draw their provisions, hungering China and India may be fed, while the inhabitants of our new possessions may draw freely from our resources.

Our opportunities and responsibilities will become greater as the nation becomes greater. The nation will become greater as the people who compose it develop its natural resources and faithfully discharge all the duties imposed upon it and has an ambition to constantly improve it. Who can clearly estimate the probable demands the future may make upon us? Suffice to say that to the thoughtful student it will seem to be as great as the greatest productiveness of our soils will produce under the most thorough, scientific and intellectual management.

A few months ago, in far off old New England, we visited one of the most interesting farms it has ever been our privilege to visit. It was not the size of the farm, for there are but seventy acres in it, but the thorough, scientific and systematic management with its wonderful results is what appealed to my admiration. Think of it, on a farm of seventy acres was employed constantly seventy men. Distributed upon this farm annually was 3,000 cubic

cords of manure, all of which was produced by the animals raised and matured on the same farm. At the time of our visit there were 700 head of hogs of different sizes on hand, consuming what would otherwise have been wasted in the vegetables, making in turn meat for the market and fertilization for the ground. The man who owned this farm was conducting, in a very successful manner, a system of intensified farming. He was intensely interested in his work, had been a successful manager of his soil and correspondingly successful financially.

We make this reference to illustrate the fact that it does not require hundreds of acres to make a farm, but a small tract of land if properly handled contains riches enough within it to make the owner independent if he will but bring it up to its highest standard. That a young man who is industrious and economical can become the possessor of a farm, probably not a large one, but one that will make him independent for life if he will properly cultivate it. That the conditions referred to in this paper are fast crystalizing, when the farmer of Illinois will have greater market privileges than he now has, greater demands will be made upon his resources. He must be less wasteful, understand his soils better, be more thorough, scientific and systematic in his management.

When we examined the soil of that eastern farm and considered its natural qualities, and then thought of our own black, rich loam, I thought to myself if it is possible to bring about such results with such natural conditions, what are the possibilities of our soil if the same intensified methods were applied?

CONSERVING THE FERTILITY OF THE SOIL.

By H. B. Rice, of Lewiston. Read at Morgan County Institute.

Some of the physical properties affecting the fertility of the soil are: Capillary power, permeability, temperature and air and moisture content.

As to chemical properties, the ultimate value of the soil depends largely on the whole amount of plant food contained, but only that portion of it which is in available form affects its present productive power. Nearly all soils contain ample supplies of plant food for many years of cropping, but only a small portion of it is in suitable form for the immediate use of plants. It must be remembered that plants take only soluble food, so that only those compounds are of immediate value which are or can be dissolved. Humus and certain other substances in the soil aid in the solution of many substances which will not dissolve in water.

Humus is partially decayed vegetable matter, and is an important source of plant food besides improving greatly the friability and moisture holding power of the soil.

Capillary power, one of the most important properties of soils, is that power by which water is drawn up from the deep soil through the small spaces between the soil particles. The force is the same by which the kerosene is drawn up in the lamp wick. The more finely divided a soil is the greater its power to lift water from below toward the surface. Coarse, sandy soils are weak in capillary and clods or coarse material like straw weaken or destroy the capillary power. This is why we see corn fields where straw manure was plowed under fire before other fields commence to show injury from drought. Such ground needs an extra amount of compacting before planting.

Another necessary property of the soil is permeability or that property by virtue of which it can be penetrated by the plant roots, water and air. In order to get the full benefit of the food in a soil the plant must be able to get its rootlets in contact with the finely divided particles of soil. The spaces may be very small, but sufficiently large to admit the minute rootlets and root hairs by which the food is taken.

The amount of moisture present in a soil is an essential feature in determining its productiveness. Too little moisture checks plant growth and the formation of available plant food. Too much moisture has a similar effect by making the soil cold and interfering with the presence of air in the soil.

warmth and air being necessary both for the plant and the microscopic organisms in the soil. The roots of most plants will not penetrate a water-logged soil and it is impossible to work such a soil without doing it great injury. Working too wet will puddle the soil. Seeds will not germinate nearly so well in a puddled soil as in a mellow soil even though the temperature be the same.

Tillage affects both the physical and chemical properties of soils in very important ways. Plowing in spring reduces the water content of the surface soil, thereby warming it, while it prevents the loss of water from the deeper soil by wakening the capillary power of the loosened surface. More of the rain penetrates a mellow soil than a compact soil and by maintaining a loose surface mulch to check evaporation it may be saved for a time of need. Compacting a soil by rolling or otherwise increases its power to bring up water from below and unless a loose surface is maintained or the surface is covered great loss by evaporation necessarily follows. Subsoil plowing allows the water to penetrate more readily and the plant roots to go deeper. As to its value for us I can not say.

The work of microscopic organisms in the soil is not generally appreciated, but is of vital importance to profitable agriculture. Bacteria of some kind are involved in most of the changes from the time the plants or manures begin to decay until they are finally utilized again for plant growth. Nitrification or the formation of nitrites and nitrates in the soil is of primary importance to plant growth, and is due to the action of certain bacteria. Warmth, a moderate degree of moisture and the presence of air in the soil are essential for the work of these as well as many other useful bacteria. Many of you have noticed a whitish deposit on the surface of the soil after continued dry weather. This generally consists of nitrates, principally of lime and potash, formed in the soil and deposited on the surface by evaporation. Great loss may be caused by heavy rains after the ground has been without vegetation during the warm months, as these nitrates, formed in the soil, are easily dissolved and carried deep into the soil or lost in the drainage water. The plant roots transform this soluble food into insoluble form; therefore, the ground should not be left long without a growing crop during the growing season. The formation of soluble plant food usually ceases in this climate by October first, hence, fall plowing should be done after this date to prevent leaching.

The chief value of leguminous plants, clover, peas and beans, lies in the fact that through the aid of bacteria living in the nodules, or knots on the roots, these plants have the power to take nitrogen from the air and store it up in themselves. All other crops must obtain their nitrogen from that found in composition in the soil. Nitrogen being the most expensive and the most easily lost of all the elements of plant foods, this is an exceedingly valuable quality. For this reason alone some of these plants should be reckoned in all rotations of crops. Clover is also a deep-rooting plant, loosening the soil and feeding deeper than most other plants.

A regular rotation of crops lessens the damage from disease and from insects. This is also an effective way to fight weeds, as many of the noxious weeds may be checked or exterminated by a skillful rotation, not allowing them to seed. If we had other fallow crops in addition to corn to use in our rotations, it would aid us in cleaning the ground. Different crops require different amounts of the various elements of plant food, thus preventing a shortage of any particular element. The supply of humus may be maintained and even increased by a systematic rotation of clover and grasses with grain crops.

Plowing under clover or other crops for manure is generally extravagant practice for a man who has stock to which he can feed the crop as hay or pasture, as practically all the fertilizing value of the crop is recovered in the manure and the food value of the crops is utilized. Of course the crop would be valuable plowed under, but the same results may be obtained more economically.

The value of the manure from any animals is determined mainly by the composition of the foods eaten. Careful experiments have shown that prac-

tically all of the nitrogen, phosphoric acid and potash in the food is recovered from mature animals, and about 85 per cent of the nitrogen and 90 per cent of the phosphoric acid and potash is recovered from growing or milk-producing animals. The value is about equally divided between the solid and liquid excrement, perhaps in favor of the latter. Such foods as cottonseed meal, linseed meal, gluten meal, wheat bran and shorts, clover hay and oats rank much above corn, corn fodder and timothy hay in fertilizing value.

Good barn yard manure improves the texture of the soil, increases the supply of humus and adds to its water holding power, besides adding directly to the supply of plant food. The elements are not in as good form for immediate use in barnyard manure as in skillfully prepared commercial fertilizers, but the ultimate value of the former makes it more desirable, at least when from animals fed on rich food. Where commercial fertilizers are relied on, the land tends to lose its supply of humus, its drouth-resisting qualities and its general fertility. Concentrated feed-stuffs are cheaper sources of fertility for a stockman than ordinary commercial fertilizers.

Very much is to be learned by most farmers about the conservation and application of farm manures, judging by the common methods, or, rather, the lack of methods. To get the least value out of the manure, pile it under the eaves of the barn, on a side hill, allow it to accumulate all winter, and ferment thoroughly so as to burn out whatever value the leaching may fail to remove. Every one has seen at least a part of those conditions many times.

As far as is practicable it is well to haul the manure direct to the field from the stable. The liberal use of absorbents is of great importance. In the old countries dried peat, muck or earth is used a great deal and is better than straw for preventing loss. Dry earth or land plaster spread over a manure pile will save much of the ammonia which would otherwise be lost. The more compact a manure pile is the less will be the loss. Covered barnyards kept well littered are probably the most economical means of conserving manure. Almost everything is thus saved and fermentation and leaching are both avoided. The manure can thus be left till convenient times for hauling without appreciable loss.

Manure is best applied to meadow or pasture land—the loss is less. For plowing under in spring unless well rotted, that applied before mid-winter will give the best results. The manure should be kept near the surface. Hauling manure and dumping in piles on the fields is to be condemned for obvious reasons unless the spreading is done before any heavy rains come. The tendency is to scatter manure too thickly rather than too thinly. Ten or twelve loads of good manure per acre is probably more economical than a more liberal coating for average farm conditions.

While this article has been anything but thorough in its treatment of the soil questions, it is to be hoped that some useful ideas may have been suggested along the lines of tillage, rotation of crops and the handling of farm manures.

CORN CULTURE.

By Mr. O. J. Avery, of Prairie Home.

Indian corn is a native of this country and is known as a grass. It is the only grass that has the seed on the side of the stalk. It has 28 export values and will soon be put to other uses. In 1891 we raised our largest crop, over two billion bushels. We could have filled a string of cars (600 bushels in a car) around this globe. It was raised on ninety-six million acres. You will not again see that many acres of corn planted. The corn belt covers a part of Kansas, Iowa, Illinois, Indiana, Missouri and a small part of Ohio. Hang to land in this corn belt. There are only forty-seven million acres of this natural corn land where the soil and climate are perfectly adapted to growing corn. John Powers, of Prophetstown, Ill., raised 196 bushels, 25 pounds on an acre this year. The way this is done is by first planting in the regular way, then in ten days plant another kind between the hills; and then later on by planting between the rows and then it is tended by small cultivators made

for that purpose. Of course the ground is made very rich to start with, and every hill is thinned to two stalks. On an ordinary acre of ground (I mean one not shrunk by hot weather) there are 3,488 hills of corn. This makes 6,976 stalks, counting two stalks to the hill. This makes ninety bushels per acre providing you raise a good big ear on every stalk. It is possible to raise 240 bushels on an acre. Our crop reports say we raise 32 to 34 bushels per acre, that is it tells us that we raise ears $4\frac{1}{2}$ inches long. Now, brother farmers, we want to raise ears 15 to 16 inches long and keep it to ourselves and don't tell any person. How some of us like to blow about the big crops that we are going to raise. The grain man wants to hear about a big crop. The banker and the crop reporter will listen and the result is we tell too much. We have thrown ourselves out of several thousand dollars this year by over-estimating the crop and by holding on to our old crop until the last moment. You take a man that has never been called to the farm and he is ready to stretch his crop to beat his neighbor. We crop reporters have terrible times with you fellows who go to town and tell the editor there at the temple of truth what fine prospects you have ahead. If we want good sound corn we must change our ground at least every third year. Sow half a crop of oats and full crop of clover. To raise a crop we must have good teams of well-harnessed horses and no man can afford to buy his horses. Raise fall colts; they are cheaper, easier to raise and are better horses. I use a 12-inch Sattley plow without a land side. If you use a large plow it will not pulverize the ground good. Use a surface cultivator first time over, cross with the shovels and lay by with a surface and if necessary use a planter wheel to drag with. If your ground is inclined to break up cloddy, harrow it at once and when it is time to plant or when the hedge starts, disc your land, harrow diagonally across and prepare a good seed bed. Take your planter, (which should be a good one) get in a good humor and take two kinds of corn, an early white and a late white, put one in the right and the other in the left side of your planter and be sure and keep your seed corn separate by marking your sacks so you will know which is which. It is easier to use two sacks after you get used to it. After you have filled your planter step off twenty-four rows and keep the seed corn ahead of you all the time. I shell my seed with a sheller that cost me \$5.50. You can't afford to do without one. I always pick out seed corn at gathering time. The reason you plant two kinds of corn is to get a proper pollenization. It lengthens the time usually from five to ten days, any every stalk will have an ear of corn. It will increase the yield ten bushels per acre usually. Try this. Do not say it is just some punkenhead's theory; it is just simply up to date farming. Go to your neighbor who has an earlier or a later larger corn than you have. Whether you like his corn or not, get it and plant it and you will surely get an ear from every stalk.

Do not pick your seed out of what you raise that way. Corn will not sprout until the ground is warm enough or until 47 degrees Fahrenheit. It is not necessary to carry a thermometer. The hedge will tell you when to plant corn. When your corn starts to come up harrow it. You can harrow 40 acres a day with a good team. Just before the corn is ready to cultivate harrow it crosswise and if it seems to take off one-third of it drive faster and let it go and remember that it is the best cultivation that you can give it to keep the weeds down. In some places they cut the corn down when it is three inches high with a knife harrow. It must be planted about three inches deep or about the depth of your planter runners. Corn will not grow up nor down. You will find it will stay just where you plant it. We cannot tell the costs of a crop; we do not figure enough. Most of us figure like Neighbor T. An implement man will tell you the exact cost of his tools. It costs for plowing \$1.00, discing 20c, harrowing 13c, seed 9c, planting 18c, harrowing twice 15c, cultivating three times \$1.05, husking forty bushels \$1.00, shelling and hauling \$1.10, total \$4.90, and if you are giving \$4.50 per acre it makes the actual cost of an acre \$9.40 on land that will produce forty bushels. You must sell the corn at 23 $\frac{1}{2}$ c. This is the actual cost and you must either sell for more or pay less rent. Our corn this year is making from 30 to 35 bushels. Some will make more. Do not use a rope planter, an A harrow and a chain harness and expect the boys to stay with you. Three men can tend 240 acres.

One man and a boy tended 130 acres. It made an average of 70 bushels per acre or 9,100 bushels. Sold at 22 cents or for \$2,002. This was in 1894. It was all fresh land—part of it clover pasture. Another man and two boys raised 1,000 bushels on 100 acres that sold for 24 cents. The Banker's Guide will tell you that corn has in the last ten years reached the highest market price in May, but you have a few other chores to do then, so sell your corn during January or the third week in July or by August 15th. It will not pay any farmer to hold his corn over. Sell the crop and invest in something. Are you bothered with peddlers? We divide the people of this country into three different classes—the producers, the traders and the professors. We are the producers. Ella Wheeler Wilcox divides us into two classes—the lifters and the leaners. In whatever class we may be, let us be a man, a noble representative of our kind. I want to teach you to grow more corn on less acres of land. Of course we can only plant and tend the crop right. God will furnish the sunshine and the rain. The trouble with us is we buy more land and work ourselves and families to death to pay the bills. Or we run too much after the almighty dollar. If we kill ourselves trying to get a living in the best country on the globe, God will have no use for us in Heaven. Now in conclusion let us remember our three great duties: First, our duty to our Creator, to the God that made us in his own image, that gave us sight, feeling, hearing and all of the five senses. Second, let us remember our duty to our families, our duty to educate them not only with book learning, but with good language always well and timely spoken, and remember, fathers and mothers, that your children will go the way they are taught. If you allow some low scalawag to teach them bad they will go to the bad. Third, let us remember our duty to our country. It is said that it was our education that helped us whip Spain before breakfast. Let us always remember our duty to our country and our country's flag, the two greatest things this country ever raised—corn and flag.

CO-OPERATION AMONG FARMERS IN MARKETING THE PRODUCTS OF THE FARM.

Read at Perry County Institute by George W. Wilson, Sparta.

Taking in consideration the condition of the business world as we find it today, we ask what is the greatest question that confronts the farmer today? We answer, it is the marketing of the products of the farm. We find when we look about us, all other classes of business men are organized and coöperate in the disposition of their products, whether it consist in labor or some other product. The farmers meet from time to time and discuss agriculture, horticulture, horse raising, cattle raising, the dairy business, and many other important questions. This is all right and proper, for I do not think there is any part of our business there is not room for improvement.

I ask, why don't we coöperate in marketing the products of our farm? You ask, why coöperate? I answer, for self preservation, which is the first law of nature. I come to you with a business proposition, and it is this: The farmers to coöperate and set the price on the products of the farm. We will not take up the various products of the farm at this time, but confine ourselves at this time to the one article, to-wit: wheat.

For a little time let us consider what the farmer has to contend with in the production of this cereal. First of all, he has to prepare the land for the seed. Some seasons this is not hard to do; other seasons, and indeed they are quite frequent, it takes a great amount of labor. After the seed is in the ground sometimes it is so dry it fails to grow, sometimes a hard rain follows so soon after sowing that the ground becomes crusted and we fail to get a good stand. Of course, sometimes everything seems all right, the wheat grows fine, only to be destroyed or very greatly damaged by the hessian fly, sometimes destroyed by the frosts of winter, then in the spring the chinch bugs very often damage it badly, sometimes destroyed by storms and hail. We have only mentioned a few of the things we have to contend with. A good many of these the farmer has no control over whatever. After the farmer contends with all these things and many others not mentioned, harvests his

grain, runs the risk of having it damaged in the shock by wet weather, or if he stacks the stack weevil is liable to damage it; he gets it threshed and ready for the market; he loads it in a car, ships it to the market. The other fellow weighs it and puts a price on it.

Now I ask you if there is any business about this last named transaction? I say emphatically, no. Now I suggest this: Set a price on our wheat. I am not in favor of a speculation price, but I am in favor of a reasonable remunerative price, say 80 cents for No. 3, 82 cents for No. 2, 85 cents for No. 1, for the months of June, July and August; 90 cents for No. 3, and a little more for the better grades for the months of September, October and November, then for the four following months the price to be \$1.00 for No. 3.

Among the first objections we meet when we talk coöperation among the farmers is this, so many farmers have to sell. Now I say this, very few farmers will sell for 60, 70 or 75 cents if they believe their neighbors are going to get 80 cents, and there will be no trouble about getting the price agreed upon, for the people have got to have the wheat. We will not have to ship our wheat away to find a market. They will come for the wheat. Another objection we hear is, it will make flour higher, and hence hard on poor people. I say make the farmers prosperous and all other classes will be prosperous. Under the present conditions as we find them, how many farmers are financially able to send their girls and boys away from home to school? The fact of the matter is, Mr. Chairman, in a few more years we will have to depend wholly on our district school for an education for our children, and all because we do not stand up for our rights and set a price on our own labor like other business men.

Now if the wheat producing farmers of this country will only do this, the corn producers will soon follow suit. We say we won't take less than the price agreed upon, but if the demand makes the price higher, all right.

Now, gentlemen, take this matter up and let us agitate it, and if you think it advisable have Mr. White carry the matter to the State Institute in a well written, and in his forcible style paper. In my own opinion, and I believe you will all agree with me, there is no question that confronts the farmer today of half the importance as this one. I believe it is possible for the farmers to do this and I believe they will do it.

COW PEAS AS A FERTILIZER.

By J. W. Stanton, Richview, Ill.

By the law establishing the Illinois Farmers' Institute we are enabled to come together to discuss ways and means to assist and encourage useful education among the farmers, and for the development of the agricultural resources of the State. Years ago when our lands were first brought under the plow, crops of fifty bushels of corn, thirty-five bushels of wheat and sixty bushels of oats were common; they were grown also with less labor per acre than is required now to produce much less with all the improved implements and more intelligent operation, therefore it has become absolutely necessary that soil improvement receive prompt and intelligent consideration. In some cases complete restoration of the soil is necessary. How shall this be attempted? What means have we in reach? We find the principle elements of plant food depleted by continued cultivation and the removal of crops are potash, nitrogen and phosphoric acid; our soils seem to be sadly deficient in certain elements to produce crops, which we are told is caused by lack of humus in the soil. It is said the soil contains a large amount of potash and phosphoric acid when apparently worn out, but not in available form, therefore we must supply this deficiency. Cow peas and clover have the power of gathering from the air a portion of the large quantity of nitrogen they contain. It appears also, from recent experiments that these plants are able to use certain soil compounds of potash and phosphoric acid which is not available to other crops. The value of cow peas as compared with clover by recent tests resulted in clover being considered of very little value in any

county in southern Illinois. Cow peas are more easily grown than clover, especially on our prairie lands. The clay pea matured and turned under add a supply of readily available plant food upon which the succeeding crop can feed at once. The vegetable manure of this class serve another equally important purpose in the soil. The physical condition of the soil is improved, is made more friable, more easily tilled, its water holding capacity has been greatly increased, and also the capacity to absorb the water which falls in form of rain and snow. The water is given off more slowly by evaporation. We are brought face to face now with stern necessity in our soil conditions, and in reply to the questions, How shall we attempt to improve our soil? and What means have we in reach? I answer, the cow pea is most available. The stable manure heap is sometimes called the "farmer's gold mine," but it is impossible to secure this in sufficient quantities. The cost of commercial fertilizer is too great to permit their use on our crops, therefore, plant cow peas and turn under the crop at maturity or hog them down. The most important difference between the composition of old worn out soils and new soils of same character is in the amount of humus which is present. Cow peas as food for animals upon the farm have a value as food and manurial value greater than any food in use excepting cotton seed meal and linseed meal. In this paper I have simply offered these few suggestions and statements as a basis for discussion. I take it that the most valuable results of these meetings must come from the discussions that follow the papers on different subjects.

FERTILITY OF THE SOIL.

Read at Adams County Institute by R. B. Starr.

The question of maintaining the fertility of our farm lands is a question of first and paramount importance to every farmer.

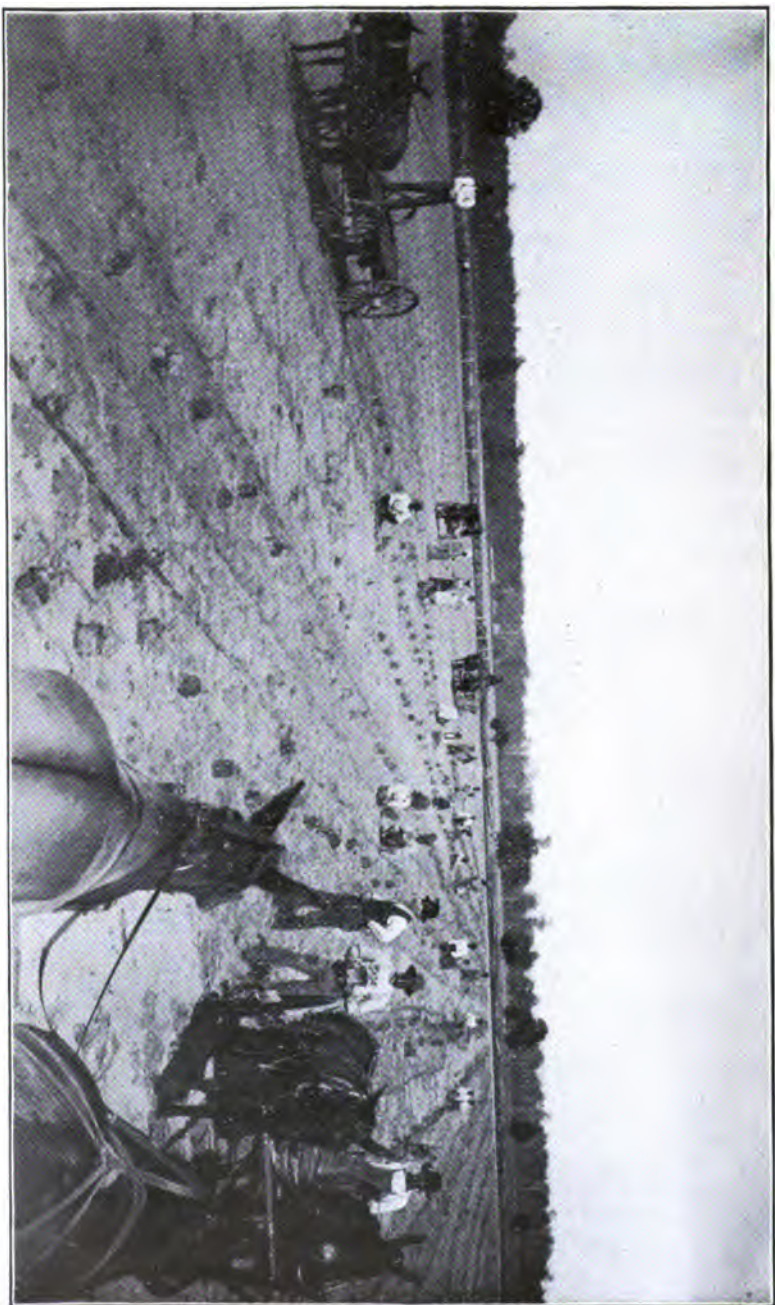
As farmers, we may as well expect to draw water from a dry cistern, dig gold from an exhausted mine, breathe in a vacuum or do any other impossible thing, as to expect to raise profitable crops from worn out, washed away, or otherwise impoverished soil.

The farmer's land is to its owner, what a thorough medical course is to the physician; it is to the farmer what a legal education and experience is to the lawyer; it is to the farmer what the mechanical genius and skill of the hand is to the tradesman; it is capital, his stock-in-trade. It is the source, not only of his profits, but of his very living as well.

A farmer's farm may be well fenced, it may be well provided with comfortable and substantial buildings for both his family and his stock; it may be supplied with a complete line of machiney; his barns and his pastures may be stocked with the best grades of farm animals, but if his soil is thin and exhausted, his fields will be barren, his granaries empty, and likewise his pocketbook, profits will not appear and his work will be disappointing. How often in riding through the country we pass fields of corn that are dwarfed, puny and sickly in appearance, telling in its mute way of the hunger from which it is suffering!

We have all heard, perhaps, the story of the barefooted urchin sitting upon the top rail of a fence surrounding such a field as I have described. A stranger in passing said to him: "My boy, your corn looks small and yellow, doesn't it?" "Yes," was the reply. "Dad he planted the little yellow kind." "Oh, it will not make more than a half crop, will it?" "Naw, we don't expect it to. Dad he planted it on the halves." But not all corn that is small and yellow is so because the little yellow kind was planted. Not all fields that yield a half crop do so because they were planted on the halves.

The difference between a farm that produces, say, sixty bushels of corn per acre, and other crops in proportion and one that produces but forty bushels per acre and other crops in proportion, each in the hands of equally skillful farmers, may mean success to one and failure to the other; it may mean a struggle for life to one and a degree of prosperity, placing him beyond the thought of want, to the other.



TRANSPLANTING GEM MELONS.

Sixty acres in one field. MR. PAUL ROSE, Olive Branch, Ill. On line of Chicago & Eastern Illinois R. R.



Our subject should properly be considered in three parts: First, the importance of maintaining the fertility of our farm lands; secondly, the cause of loss or degeneracy; and third, the best methods of preventing and restoring such loss.

When we consider the small average yield per acre of our various farm crops in Illinois for a number of years we cannot help wondering if the figures are correct, and we are surprised that our rich prairie State, with its boasted fertility, can not make a better showing than it does. For instance, in the last eleven years it is for corn, 32 6-11; wheat, 13 10-11; oats, 29 9-11; barley, 23 8-11; hay, 1 2-11 tons per acre. But turning from the question of the importance of keeping our land in a productive condition (which we have already to some extent considered), let us inquire first, what the principal causes of soil exhaustion are and then look for a remedy.

There are three principal causes for the deterioration of the soil. First, the growth and removal of crops without returning to the soil the amount of fertility taken away by them. It is bad policy to sell our corn, oats and hay in the market, for in doing so we are selling the value of our farms by the bushel and by the ton. All crops raised (wheat excepted) should be fed to stock kept upon the farm. The second loss of soil fertility is surface washing and the "leaching." It is believed that the latter two causes impoverish the soil more than the growing of crops, and that for the last two years our farms have lost more from these causes than for many years preceding.

But how can these losses be prevented or the losses replaced? First, it can be prevented to a considerable extent by keeping the land well covered by a growing crop or out of the growing season by a dead crop to act as a mulch. Summer fallowing is thought to be injurious to the land if it is fallowed for any length of time. It is a benefit to the first crop, but an injury to the land, for the reason that it liberates more nitrogen than the first crop can utilize. That which is not used passes into the air and is lost. Better have the land covered with weeds than entirely bare, though the weeds should never be allowed to go to seed. There are three chemical elements absolutely necessary to the growth of all plant life. They are: nitrogen, phosphoric acid and potash. The first, nitrogen, is the most important of the three; it is the most difficult also both to obtain and to retain. It is the base of nitric acid, and the principal ingredient of atmospheric air, is without form, taste, touch or odor, but as necessary to plant life as air is to animal life. As a commercial fertilizer it comes in the form of nitrate of soda and sulphate of ammonia, costing 15 to 18 cents per pound. Fertility, which means the presence of these elements combined, in what we call humus, can be restored to our land in various ways. First, by saving and applying all of the manure that can be made upon the farm. This is an item of profit that we do not value as we ought. The Missouri experiment station made a careful estimate of the value of farm manures in that state, and found it to be \$150,000,000 per year, one-half of which it is thought is allowed to go to waste.

The same is perhaps true of Illinois. It has been repeatedly shown by experiments made in the eastern states in raising stock for beef, pork and mutton, that a large part of the profit was in the manure, and when its value was left out of the account there was little or no profit in the operation. Therefore, I would say, save every particle that can be gathered in and about the farm buildings, straw stacks and cattle sheds. It is a waste, however, to put it upon sandy land, as it is liable to leach away before the first crop can take it up. Apply it to such fields as will hold it the longest, for there it will do the most good. But by all means harvest and care for the manure crop as carefully as any crop grown in the fields. The next and perhaps the easiest and most profitable way of maintaining soil fertility is by growing leguminous plants or crops on those that derive a larger part of their food or growth from the air instead of the soil. These consist of the different varieties of clover, as the common red, the Alsike, the crimson and the Japan, the different varieties of cow peas, also alfalfa, lupins, soja beans, etc.

As the Alsike and common red clovers are best adapted to our soil and climate, we will consider them principally as a soil fertilizer. We have all sown, cut, handled and fed clover so many years that it seems as if nothing

new could be said with regard to its value, and yet in this matter, as in many others, we need "line upon line," for we all know better than we do. I think it is safe to say that there is no general farm crop raised on a large scale that will bear comparison in value to that of clover.

It gathers the greater part of its plant food, nitrogen, from the air which would otherwise be lost, for our staple crops, as corn, wheat, oats, timothy, etc., have no such power to draw nitrogen from the air through their leaves and stalks, but must draw it all from the soil through their roots. For this reason they exhaust the soil, while clover renews it. Clover also draws much nourishment from deep down in the earth, below the reach of other crop roots, depositing these elements in the soil near the surface, where they can easily be used as food for other crops. Numerous and careful experiments have been made at agricultural stations in different states to determine the relative value of clover when pastured in the field, when plowed under as a soiling crop, and when cut and fed to animals, either green or cured and fed as hay. Clover making two tons per acre, plowed under green, is worth as much to the land as twelve loads of barn yard manure. When cut and fed to dairy cows, it will produce twice as much milk as when the cows are allowed to run upon it. If cut and fed to young cattle, it is worth from three to five times as much as when pastured. Experiments also show that it is much better for the land to cut and feed the clover either green or cured, than it is to pasture it or plow it under, provided that the manure is carefully saved and returned to the land.

When this is done it is claimed by the Illinois Agricultural Station that only one-fourth of the soil fertilizing value is lost, while much more than that is saved by the stock fed. This crop is so valuable to the farmer and so useful in renewing our worn out land, that I think we should secure a stand at almost any cost and keep a considerable part of our farms in clover all of the time.

A neighbor of mine, a successful German farmer, owns and leases two farms, specifying in each lease that the tenant must keep a certain number of acres in grass, and that he shall plant but a certain number of acres in corn each year, showing that he understands the exhausting effects of cropping and the saving effects of grassing his lands.

To summarize then, I would say, save and apply all of the manure possible to be secured; keep all of the stock that our farms will carry; sell no crop that can profitably be fed; buy feed rather than sell; and last, but of first importance, keep a large acreage in clover to be pastured, plowed under, or fed as hay, remembering always the old saying, that to be "in clover" means even more than the saying implies.

GRAIN AND STOCK RAISING.

By Frank Moore, Chester, Ill.

Mr. Chairman, Ladies and Gentlemen:—In discussing in your hearing, for a few moments, some of the things pertaining to agriculture, together with our successes and failures, I will endeavor to present for your consideration a few thoughts that have been overlooked and, in fact, have not been put into practice by the farmers, as a rule, and a very little at all, if any. The subject I have selected for this occasion is Grain and Stock Raising. In the discussion of these particular branches of agriculture, I desire to speak more particularly of grain raising, with stock raising as an auxiliary, and a very important one too. Some of these branches will receive what is believed to be worthy of more than a passing notice, and some of them I shall endeavor to consider later on.

Speaking in general terms, there is a time and a way to do every necessary work in order to reap the desired results and in order that industry, energy and constancy may and should be encouraged and rewarded in a seemingly more satisfactory way. First of all, we want all the aid we can get out of our business that we may be the better able to obtain all of the needed comforts of this life that it is impossible to honestly obtain. One of the first things in this connection, is well and properly fenced farms. In my judgment, it is

not necessary to be a very close observer to detect this much needed and supremely important reform to begin with, in order to increase revenues with which to meet, as near as may be, all needed expenses incident in making agriculture a successful as well as a pleasurable vocation, if not the most pleasurable calling in life. Because it is as true as anything in human experience can be true, that farming in all of its ramifications is the foundation which all other business resort to for repeated and perpetual inspiration as well as the foundation upon which all earthly enterprises rest for safety and perpetuity in furnishing all the sinews of prosperity (because we do not indulge in any thoughts, but thoughts of prosperity), and as a means to this end we must use every means within the reach of our desires to succeed, if we succeed at all.

In my judgment, a few reasons why the re-fencing of the farm would prove to be conducive to better general results, especially in the one item of grain raising, are these. In the early days of agriculture, in this section of this State, of necessity we had to begin by first erecting a fence, and a substantial one, too, as a safeguard to the crops. Under that system of management better general financial results were obtained than under the present system of open fields. Under the old system of fenced farming almost every farmer carried all the stock he thought himself able to carry and there was little difference whether he owned the land he tilled or whether he occupied it as a tenant, if he managed to carry the stock through the winter, for as soon as grass came he was all right if he failed or partially failed with wheat, which is considered the primary crop from a ready cash point of view, especially in this part of the country, his stock came to his financial rescue. Well, some one will say, that those days have gone, those outside ranges have gone, and we are living in a new era, and have no need for farm fences, there is no live stock on the outside to interfere with the crops, and why should we be encumbered with something which adds to our expenses? It was to get rid of these expenses that the fences were voted out. All right. We will not be very contentious about that part of the argument, nor do we care to contend along that line. The point at issue is the question of as comfortable a living and as much happiness as we are capable of obtaining, as well as we are able to get out of the business things of this life. I believe we are here, in this life and at this particular time, to improve upon the methods of the past instead of falling behind the past. Now then! Money-making and comfort and happiness-seeking are some of the, and by most people, the prime objects of life. If that be true, and we believe it is with respect to the things of this life, why not engage all the wisdom within our reach, to obtain these desirable results? My observation leads me to lay very heavy stress upon the side of refencing the farms, as by so doing more money can be made from the farm, and the more money the farmer has the more profits he can have, as all of the waste from the grain fields, as well as the after-maths from other fields, after being emptied of their crops, can be converted into such by-crops as beef, mutton, pork and horses and mules, as well as putting the land in a more fertile state of cultivation, which means more money and less hard work, as less ground is needed to be plowed if stock can be kept upon the farm, which cannot be done at a profit if the lands are not so fenced; and as we are living in a day and a time when more money is needed in order to get the necessary comforts of life, to say nothing of a surplus, than was necessary in any other period in the history of this, our portion of the country, as all of our former economic remedies such as the spinning wheel, loom, cobblers' bench, cross roads blacksmith shops, and other little independencies that in those former days were as trained guards at the farmers' elbows, bringing him safely across the little rough paths of his progress, have all disappeared, and to all present appearances, are gone to be gone forever.

Our wheat fields, which at one time, because of the bountifulness of their yieldings, causing the farmer and his family to go forth from their dwellings in the morning like a merry lark with song and and praise upon their lips, are apparently fast disappearing in their productive energies, and in their present downward march will, ere long, in a large measure share the fate of those industries above alluded to, if some such heroic steps as I have already indicated are not speedily and energetically resorted to as a remedy. But

you will please understand me the above is not all the remedy I have to offer. I have only suggested this as the beginning, or one of the elements, of a remedy. (I presume you understand the trend of the discussion is in the interest of wheat culture as a primary crop and stock raising as a very necessary aid and in more ways than one.) Some of these ways we will, if time permits, mention later on. Before leaving the point we have already been at, to-wit: refencing the farm and proportioning the fields to conform to the size of entire farm, the matter must be understood to be the first important movements to begin with. If your lands are not yielding you the necessary surplus by reasons of their apparent impoverished condition, to obtain the needed results, to refence. Go to work at once and fill your lands full of organic matter without delay, never forgetting the old adage that there is more ways of killing a dog than by choking him on butter. The result of the means suggested will readily aid to produce the desired prosperity in agricultural pursuits, both in grain and stock raising, by producing a much larger amount of humus in the land than we already have, especially upon our up lands, and as a means to this end we should return as nearly as possible to the methods adopted by nature, instead of resorting to the more expensive and less satisfactory method of purchasing costly commercial fertilizers. Nature's way of replenishing the wastings of the earth is the growing of grasses of the different varieties and such as the diversified properties of the soil voluntarily aid. Grasses are soil builders. They are the agents employed by nature to cover bare spots, to protect lands from the washing torrential rains, and finally to make the soil fertile.

Wherever the natural conditions are sufficiently favorable to admit of the growth of any green plant, the surface soil is first covered and protected by grasses. They are the agents that serve to build up fertile beds of loam. They gradually form turf, and the rotting turf makes humus, which is, from an agricultural standpoint, the most important and most valuable constituent of the soil. The presence of humus in a soil is a necessity. The richest soils, those that can sustain cropping the longest without the addition of artificial manures, are those that are rich in humus. Now we want to know what the functions or office of humus in the soil are. It acts first as an absorbent of moisture. A soil containing a higher percentage of humus will soak up more water and will hold it longer than a soil deficient in organic matter. It changes the physical condition and gives the fineness and tilth so characteristic of a rich soil. This much we have all witnessed in plowing up a field where a good stand of clover has grown up and covered the ground pretty thoroughly, and grown to a good height also, making almost a perfect shade. It also makes the soil less susceptible to abrupt changes of temperature, absorbing and radiating heat more slowly. The humus takes up nitrogen, phosphoric acid, potash, lime, magnesium, sulphur and other inorganic plant foods, thus retarding the loss by leaching of soluble compounds. Through the action of minute forms of plant life, which live in the soil, the humus is finally attacked and broken down and the plant foods are gradually released in such form that they can be readily absorbed by the roots of the growing crops. There is more life in a field of turned rotted turf than in an equal area of long cropped soil which has been abundantly supplied with the best commercial fertilizers, but which is deficient in organic matter. Turf is indirectly a valuable reservoir of nitrogen and to cover a field with turf-forming grasses is one of the best ways of increasing the amount of humus in the soil. Clover and beans are "fixers" of nitrogen, and are indispensable as soiling crops and as green manure. Both the grass crop and the clover crop draw less heavily upon the mineral fertilizer in the soil than do the more strongly feeding grains and root crops, and while they are taking less from the soil they are adding much organic matter to it. A farmer can add every year an amount of available inorganic phosphoric acid and potash and nitrogen necessary to make his crop, but if the store of humus (or moisture) is not kept up the fertility will not increase from year to year as it should do and by reason, too, of the ignorance of the farmer or his indifference to see to it that this so necessary material is supplied.

In conclusion. Since we have already made use of an old adage we will add another, which is like this: "Remember well and bear in mind, a con-

stant friend is hard to find." And another: "A friend in need is a friend indeed." If farming is the natural progenitor it is the husband also of all the business affairs of life, and as a business farming is justly entitled to a seat at the first table, and if such is not the case, the criminal indifference in not taking care of its friends, namely, the productive energies of the soil, for when they are gone it is hard to restore. But if this humor that we have been considering is carefully handled in an intelligent and businesslike manner, it will not only be the farmers' constant friend, but also a friend indeed. Indeed, fellow-farmers, you would not indulge for one moment, only to listen with supreme ridicule, upon the idea of growing red herring in the woods or red strawberries in the sea, yet it is just about as possible to do either of these successfully as it is to get anything near remunerative out of the farm, which we believe we are entitled to, and can get if we could only see our way clear to inject twenty-five, fifty, seventy-five or, better still, one hundred percent more wise economic, business methods and business intelligence in all of the affairs of life. And as the farm opens the mines and clothes as well as feeds them, the farm is made more of a lordly business in its inspiring influences and in blowing the breath of life into the nostrils not only of the snorting and humming enterprises upon land, but also utilizing the rivers lakes and the mighty oceans with the plow of progress in aiding, as no other business or single calling in life is aiding, to bring into real being that long ago promised time in the future, and that time, too, so anxiously and devoutly looked for, but apparently so far in the density of the future, the beating of the swords into plowshares and the spears into pruning hooks. For the accomplishing of this noble purpose the stewardship is placed in the hands of grain and live stock.

GRASS CULTURE.

By H. G. Easterly, Carbondale, Ill.

Mr. President, Ladies and Gentlemen:—In the preparation of this paper I hardly know what to offer to this Farmers' Institute, as my business does not run in quite the same direction as the farmers of this county. We are all tillers of the soil. As I have been requested by your president to read a paper or deliver an address before this Institute, with the privilege of selecting my own subject, I have taken it for granted that they expected something in my line of business, therefore I have chosen for my subject "Grasses." I shall not, however, attempt to give you any fine spun theories, scientific terms, or anything else but plain, practical, every day experience that has come under my own observation.

We predict that the time is not distant when "grass is king." The revival of stock growing is upon us. To accompany it we must have a revival of our pastures. Thousands of acres in southern Illinois should never be touched by the plow; their great value lies in their adaptability for grazing sheep and cattle. The more grass we produce the more stock we can maintain and the quicker we will return to a higher state of fertility in our soils. Of all our grasses the Kentucky blue grass seems most widely diffused in our section. Wherever there is lime in the soil it will be found the leading species. Blue grass is a pasture grass. In Kentucky it is cut for hay to some extent, but its main use is for grazing. It is nearest to the ideal for the purpose. It starts early in the spring, its sod is close and compact, it endures short cropping and responds quickly to warmth and moisture. Its great fault is inability to withstand drought. Sow 1 bushel per acre on well packed soil the last of February or first of March.

A wise rotation of crops has already become a necessity and grass and clover must be one of the crops in order that the fertility be maintained in the soil. Our best and lasting grass is timothy, but it is not a perfect soil feeder when compared to clover, but it is adapted to this soil and makes the best of hay. To insure the best catch sow 10 to 12 pounds to the acre on ground that has raised a crop of pease the same year. Have never seen it fail. Follow this in the spring, the last of February or first of March, by sowing 6 to 8 pounds of clover seed per acre. A little clover with timothy is coming more in favor in our markets year by year. If the timothy gets a

good stand it will eventually crowd out the clover. The clover is expected to serve as a shade to the tender plants during the heat of the summer months until they get firmly rooted. Many persons do not class timothy as a pasture but rate its value as hay. Often I sow timothy with wheat in the fall, 8 to 10 pounds per acre. If the ground is in excellent condition, I sow with drill when sowing wheat, if ground is not well pulverized. Nothing is lost and much gained by harrowing and rolling or harrowing and dragging; pulverizing will bring the moisture to the top of the ground. I would also sow clover in the spring to insure a perfect catch, when the ground is in good condition. After a freeze, when the ground is honeycombed. Don't sow on snow; if it melts rapidly it will bunch the seed. Every one knows orchard grass. Many have tried it. Some without a full knowledge of habits of growth pronounced against it; others bearing in mind its natural inclination to form tussocks by strolling out from the root have sown it thickly or in conjunction with other grasses and find it most valuable. Orchard grass is not injured by shading. Sow it thickly and pasture closely.

I deem it not necessary to devote much space to red top. It does well in low, wet soil, but will grow anywhere. Its seed is the smallest of all our grasses and a little of it goes a great way in seeding. It well repays cultivation. Many farmers dislike it because of its stiff stem and habit of crowding out other grasses. For worn out clay soils there is none superior and it will soon prevent washing and form a stiff, compact soil. There are other grasses well adapted for pasture, but this covers my practical experience.

The selection of proper kinds of grasses for permanent pastures depends on several circumstances. No one kind can be expected to suit all conditions nor can any given mixture of grasses. The grasses here suggested are tried and tested species from my own personal knowledge. The writer feels safe in recommending their general culture wherever soil and other conditions are favorable. Bearing this fact in mind few grasses attain their most perfect development when grown alone. A pasture once established should be maintained permanently as long as profitable. Fall seeding is the most successful, but some varieties do not endure frost until firmly rooted. The best results are always secured when thickly sown. A definite formula, giving varieties and quantity of seed per acre, is a difficult thing, owing to different circumstances and varying conditions. Lastly, I would say that careless scattering of seed on an uncultivated soil will rarely succeed. Sow more grass seed and raise more stock.

HOW TO IMPROVE CORN.

Mr. A. D. Shamel, instructor in farm crops at the University of Illinois, gave a very interesting and instructive talk on corn growing at the Tazewell County Farmers' Institute, from which the following notes were made:

The first requirement is good seed, having strong vitality. Much of the seed next spring will not grow. Of some tested at the university, but 35 or 40 per cent germinated. To test seed corn, fill a plate with earth, and lay over the earth a moist cloth, large enough to fold back upon itself, covering the kernels of corn between the folds. Cover this with another plate. Corn will start there just as well as in the ground if there is enough moisture and warmth. The cause of poor crops is poor seed in many cases. Farmers should practice careful selection of seed. There is a pedigree of seed plants, and they should be bred up just as live stock is. The longer a variety is improved by the selection of the most perfect ears every year the more fixed will the characteristics become.

PLANT MIDDLE OF EAR.

The reason some ears are not filled out at the ends is that the ends are too long in maturing, and the pollen has gone before the tip of the ear is ready to receive it. Mixed kernels on the tips show that later pollen has been received from another variety at a distance. The pollen of yellow corn will blow a quarter of a mile. If the tips and butts of ears are not filled out well,

don't plant seed from the ends of the ear, but shell them off and use only the kernels from the middle of the ear; such seed will be less liable to be mixed, and the larger seed in the middle of the ear is better than the smaller seed at the ends.

GETTING A GOOD START.

Having selected seed corn with a good pedigree, give it the best conditions for germination, for a good start in growing the corn is as important as a good start in raising a colt, calf or shoat, and like those animals, if stunted when young it may never regain its full vigor and growth. There must be sufficient moisture but not too much.

A practical illustration of listing has been given the past year in Champagne county, near Monticello, on the Allerton farms of 1,400 acres. In listing a double plow throws out a furrow and drills the corn in the furrow, shovels behind covering it up. This gets the corn down to moisture, but is not wanted in an ordinary wet season. An experiment in listing resulted in a crop of about one-fourth less than the ordinary method, but some corn planted with a planter on top of the ridges thrown up in listing proved the best of all.

ROOT DEVELOPMENT AND YIELD.

The larger the root development of corn the larger the growth and the smaller the root development the smaller the growth. When you cut off the roots of the corn you cut off the source of food supply and reduce the yield in about the proportion that the root surface is cut off. It has been said that when corn roots are cut off more roots will branch out increasing the root surface, but so far as we can find out by experiments the roots thus cut off singly die instead of sending out new branches. When you reduce the supply of food you reduce the yield of corn in about the same proportion.

PROBLEMS IN CULTIVATION.

The problems in cultivation are to get rid of weeds and to conserve the moisture. About 300 pounds of moisture must pass through the plant to fix one pound of dry matter in it, showing the great necessity of avoiding root pruning. Ninety-five to ninety-nine per cent of plant food comes from the moisture, and from one to five per cent from the soil. Nitrogen, phosphoric acid and potash are called the tripod of agriculture, being the principle elements of plant food required.

BENEFIT OF THE MULCH.

The deeper the mulch on the surface of the ground the more difficult for the moisture to get through from below and evaporate. The mulch breaks up the capillary pumping up of the water and stops its waste in evaporation. The large shovel has an advantage in that the shape of its more receding side keeps it farther away from the corn than the smaller shovel and thus it injures the roots less. It was found that the mulch in corn brought the roots nearer the surface and if the weather was exceedingly dry in July and August the corn would be injured more than that having deep cultivation. Ridge cultivation has the advantage of not injuring the roots of corn, but it is a disadvantage to leave the ground in ridges.

HOW TO BREED UP CORN.

Mr. Shamel's idea as to the breeding up of corn is that any desired quality can be developed and finally fixed by the selection of seed corn having a high degree of that quality. He says this applies to getting an ear with the ends well filled out as well as to any other quality, the way being to plant seed from ears that are perfectly filled out. The same principle applies to large ears, to large kernels, to a close crowding of the kernels upon the ear,

to purity of the variety, to early maturity, to proportion of corn to cob. In fact any and everything desired in the way of corn is to be finally secured by the careful selection year after year of seed embodying the desired qualities in the highest degree possible, but it is not to be expected that the result will always be uniform and exactly like the seed planted until after many years of such careful selection, when it will be as thoroughly established as any qualities can be established by selection in the breeding of horses, cattle and hogs.

A NEW CULTIVATION.

One very practical way to scrape the weeds out of corn and to form a light, loose mulch on the surface of the ground, was to drag a planter wheel flat ways through between each two rows.

It is a great advantage to cut out poor stalks and barren stalks at tasseling time, and thus breed out the tendency to produce barren stalks. When this was begun in a certain field about three-fourths of the stalks were cut out; now it is done every year and this year but one-fifth to one-tenth of the stalks needed to be taken out. There is no danger of imbreeding corn by sticking to one variety, as the pollen is so widely distributed, and the ear on a certain stalk is always fertilized by the pollen on other stalks.

RESTORATION OF SOIL FERTILITY.

By E. A. Riehl, delivered at the Clinton County Farmers' Institute.

The time was when we thought our Illinois soils were inexhaustible and I have heard that some of our citizens visiting their New England friends made the brag that if they had an acre of Illinois land they would be using it as manure on their fields. However our people have learned that our fields can not now be made to produce the bountiful crops with the certainty they once did. No soil, however fertile it may be when first brought under cultivation, will continue to produce as well in after years, if improperly cropped. I say improperly cropped with reference to the maintenance of its original productions. The early settlers were perhaps justified in growing the crops they did, as they had to have something that would bring cash and that was not too bulky in proportion to its value. But now when we have good transportation facilities and good markets all around us for all kinds of products that the farm produces, no man is justified in robbing his farm and posterity by improperly cropping his land.

It being granted that our lands are not as productive as they once were, and that it would be desirable to restore them to their original fertility, we must first ascertain why our lands are not as productive as they once were. It will not do for me or any one else to tell the farmer to do thus and so to restore the fertility of his land, he should know first why his land is less productive and then he will better understand why certain methods will restore the lost fertility.

When our lands were first cleared they contained all the elements of fertility in abundance and the soil was in that loose friable condition so conducive to vigorous growth, made so by the annual addition by decay of matured vegetable matter in the shape of stems and leaves of plants and trees which process had been going on for ages and made our lands as productive as they were. But when man came to cultivate the soil he changed all this. The land was plowed annually. No return was made to the soil in the shape of matured vegetable matter. The weeds were burned to get them out of the way of the plow. All straw not needed for bedding and the corn stalks were burned. In the course of time the rich humus of the soil disappeared as a consequence of the annual plowings and cultivation, the crops grown and sold off the farm carried off a large part of the elements necessary to produce the crops and no return was made to the land to take the place of the elements of fertility thus carried off.

The crops that we grow on our farms take from the soil a number of chemical elements, some of these elements are present in the soil in inexhaustible quantities, but others are present in only limited quantities and when any

one or more of the elements necessary for the formation of the crop we seek to produce is not present in the soil in available form and in quantities sufficient we will not have a good crop. If we supply the elements lacking in our soil it will be just as productive as ever, provided we get it into the same mechanical condition. Right here I want to say that our soils are not like the soils of the east and eastern experience and formulas are valueless for our use. In some parts of the east the soil is deficient in lime, and nearly all that have been under cultivation for any length of time are deficient in potash. I believe that all our Illinois soils have an abundance of both these elements. I would not haul the best wood ashes a mile if given to me, and when a man talks to you about applying lime to your land in the shape of ground limestone as some have done and are probably doing yet you may set it down for a fact that he is not posted or maybe he is talking for his pecuniary advantage, not yours. The element that is present in the smallest quantities and is soonest exhausted is nitrogen. This is the most expensive to buy and the quickest washed out of the soil by the water that falls upon and passes through it. Nitrogen can be supplied to the soil in the shape of stable manure, nitrate of soda and other substances that can be purchased. But at the low prices at which the farmer has to sell his products he can not afford to buy fertilizers either in the shape of stable manure or so-called artificial fertilizers. Fortunately it is not necessary for us to do so, as we can grow crops that will furnish the nitrogen while making us a crop of feed. These crops are clover, cow peas and soja beans. As other speakers will talk to you about these crops I will not go into details. I wish, however, to say that it must be remembered that nitrogen produced by these crops is just as unstable as that applied in the shape of commercial fertilizers and the good effect of these crops so far as nitrogen is concerned will last only for a short time and to permanently improve the land some of these crops must be adopted as a rotation of crops. Aside from these chemical elements spoken of there are other things that go to make a productive soil which in the course of long continued cropping disappears. Chief of these is humus. All lands first brought under cultivation are rich in humus, which is the result of the decay of matured vegetable matter. Humus puts the soil in that loose friable condition which makes easy cultivation, admits air to the roots and enables the soil to hold moisture. To get our lands in as productive condition as it was when new we must restore the humus, which has disappeared through long continued cultivation with no return of matured vegetable matter to furnish humus by decay. It should be borne in mind that green manuring as generally understood is wrong. Many have an idea that crops grown on the land as a fertilizer should be plowed under when green. This is not so. They will answer the purpose best if allowed to become perfectly matured. If they become dry before being plowed under, no matter, they are in the condition that nature employs. The grasses of the fields and the foliage of the forests are mature and dry before they fall to the earth and decay, making the rich loose black soil we find when first bringing land under cultivation. If crops are plowed under while green they contain very little woody matter but consist mostly of water and on decaying leave almost nothing in the soil to change its character. This being so it naturally follows that when the farmer burns the weeds on his fields, his wheat straw and corn stalks, he is wasting a valuable fertilizing material. This is not only so in regard to the woody fibre that forms humus in decaying, but chemical analysis shows that the straw and stalks grown on an acre contain nearly as great a value of chemical soil constituents as does the grain. What a waste then is the burning of the straw and stalks produced on the farm. One of the most important functions of humus in the soil is that it enables it to hold a much greater amount of water than it can hold when humus is not present. We all know that water is one of the most important factors in growing a crop. No matter how rich a soil may be in elements of fertility if we lack moisture we will fail to make a satisfactory crop. I believe that few soils but what have enough of the chemical elements necessary to grow fair crops if only there were a sufficient and constant supply of water present to enable the plants growing on it to make use of the elements necessary for their growth. I believe the greatest need of our so-called worn out lands is humus, I would therefore advise farmers to plow under all the roughage possible and

burn no wheat straw or corn stalks; instead of burning straw let it go through your stables to absorb the liquid voidings of your stock, which are equally as valuable in chemical fertilizer contents as the solids voided by the stock. This is a point few consider, and most stable manure is so handled that the virtue of this part is lost before applied to the land. Few know the value of the liquid voidings of stock although they often see the profts of it, but attribute it to the solids. All farmers have no doubt seen in wheat and oat fields spots here and there where the growth was larger and darker in color. These spots most persons attribute to the solid voidings of the teams when working the land. But such is not the case, as a little thought will satisfy any observing farmer. Teams at work do not usually stop to void dung, it is therefore scattered over several feet or yards of ground, but to urinate all animals stop, and the spots spoken of above are the result, which are also a sure indication that nitrogenous fertilizers would benefit the crop. Whether the farmer can afford to buy the fertilizer will depend on the relative cost to result. Whether he can afford to buy artificial fertilizers or not he should grow such crops in rotation as will make his land more productive, and burn nothing that can be plowed under to make humus, nature's best and cheapest soil renovator.

SUCCESSFUL OAT CULTURE AND TREATMENT OF THE SEED.

Delivered before the Winnebago Co. Institute, Jan. 16, 1900, by Wilber H. Pollock, Shirland.

Successful oat culture would be giving attention and labor to the growth and development of the oat, especially with a view to its improvement and getting the greatest improvement possible.

In discussing this important subject it is impossible to lay down any hard and fast rule relating to its successful culture. We are living in an age of more scientific farming. We must study the underlying principles and environments which govern the growth of the oat, and thereby assist nature as much as we can. Let us consider the best to sow oats. Prof. King, of Wisconsin Experiment Station, found that the following amounts of water in tons per ton of dry matter were lost by transpiration through the plant and evaporation from the soil.

Dent corn used 309.8 tons of water per one ton of dry matter. Flint corn used 233.9; red clover, 452.8; barley, 392.9; field peas, 477.4; potatoes, 422.7, and oats, 522.4 tons per one ton of dry matter. From this we find that the oat takes considerable more water from the soil than any of the other crops. We find that it takes over 200 tons more water per ton of dry matter than does the corn plant. We learn from this that we must utilize moisture by sowing our oats as early in the spring as possible, that they may get the benefit of this water before the hot, dry weather comes and it has all evaporated. If the soil is well filled with water it is much cooler as a result of the evaporation that is taking place. The oat being more adapted to the cooler soil, for this reason it matures much better than on the dryer soils. By sowing the oats as early in the spring as the soil can be worked, the oats stand a better show of reaching their maturity before the water of the soil is exhausted. The time in which the oat takes the most water from the soil is when the plant begins to shoot and from there on to the dough stage. The clover grower can draw a valuable lesson from this. The winter grains make a much better nurse crop. They are harvested earlier and leave more moisture in the soil for the clover. In trying to get the oats sowed very early in the spring great care must be exercised that we do not work the soil too soon. The rule is never stir the soil when the furrow shines. By working the soil a few days too soon we are apt to leave it in a puddled condition, which will shut out the air, hasten the evaporation, and leave the soil in poor condition to carry on the process of forming plant food.

The oat needs a firm soil which makes it possible and profitable to use the disc pulverizer on loose soils or on fields that have had corn the preceding year. If the soil is quite firm, or if seeding is desired, shallow plowing would be better.

The amount of seed to be sown must be determined by the kind of soil. I think three bushels to the acre is about right for the very low fertile soils and sowing some thicker on the higher land. Too thick a stand will shut out both light and air, thus making the grain more liable to lodge.

Perhaps the most important item upon which successful oat culture depends is the seed. If we have poor seed our labor is in vain. The first thing we should do is to run the seed oats through the fanning mill and get out all of the weed seed and also the small oats. If the oats are infected with smut the seed should have proper treatment to disinfect it. There is probably one-sixth of our oat crop ruined every year by smut.

I will explain briefly the causes of smut in oats. This smut is a fungus disease. The fungi make up an extensive class of plants that derive their nourishment wholly from organic matter. In many cases they are discernable only by means of the microscope and their presence is only revealed by the death or injury of the plant.

The fungus diseases have different forms and habits. The one pertaining to the smut of the oats grows within the seed. The spore germinates and as the oat shoots forth its smut head with its myriads of spores they are taken up into the air and are scattered broadcast. These fungi multiply very fast and when mature they are easily blown by the wind.

The method by which we control this class of fungus diseases is by preventing the germination of the spore. This is the only method now known that will destroy this fungi development within the host plant. In this class of fungi it has been found that by treating the seed with sulphate of copper or by hot water we prevent the germination of the spore. I have had no experience with the chemical treatment, but our experiment stations have found it more or less injurious to the seed. The hot water treatment I have found very satisfactory. It disinfected the seed without injuring the vitality of the seed in any way. The hot water treatment consists in immersing the seed in water at a temperature of 132 degrees F. for ten minutes. In order to treat a large quantity of seed it will be necessary for us to make some special provisions. Those of you who have steam cookers can utilize them to great advantage. Provide two barrels or small tanks, all depending on the quantity treated at a time. In one vessel heat the water at 110° to 120° F. In the other vessel the water must have a temperature of 132° to 133° F. Place a thermometer in the hot water that the temperature may be watched. The warm water is used to warm the seed preparatory to dipping in hot water. Without this precaution it is difficult to maintain the temperature of the hot water. The seed is now placed in a covered basket preferably of wire cloth, the volume of which should not exceed one-eighth the volume of the water. The gunny sack can also be used in place of the basket. The basket should be but partly filled. Immerse the basket in the warm water several times, a moment at a time, giving it a rotary motion in order to bring every seed in contact with the water. Then plunge it in the hot water, repeating the immersing as before, carefully watching the thermometer in the meantime. If the temperature falls below 132° F. cautiously add water of a still higher temperature. If it rises above this point add cold water. After the seed has been in hot water ten minutes remove the basket and plunge into cold water, then spread out to dry. There are other methods of heating the water. Place two large kettles over a fire, or two boilers over a cook stove and treat in the same manner. The chief objection to treating the oats in this way is that it is almost impossible to get the seed dry before they will germinate or heat. It has been my experience and the experience of others who have experimented with smut treatment that it is much better to sow the oats within a few hours after treating. Perhaps you have not all got the appliances for treating oats in this way, but if there is but one farmer in a neighborhood who has the appliances I find it is customary in some districts for one man to treat the oats for the whole neighborhood and for the neighborhood to exchange seed with him, paying him toll to pay for treating the seed. If the work of treating the seed has been well done probably one treatment in three years will be sufficient. In treating the seed in this way, you will realize larger yields and larger profits. You will feel well paid for your trouble.

COST OF TIMOTHY HAY COMPARED WITH SHREDDED CORN STALKS.

By J. E. Eichelberger, Plainfield.

Mr. President, Ladies and Gentlemen:—The subject which is now before us, what is the difference in cost in putting into the barn an acre of timothy hay and an acre of shredded corn stalks, and what is their relative value, is a subject that all farmers should be interested in. All farmers should be seeking for that which is best for him, economizing and trying to discover which is the best and cheapest. There is no problem among farmers at present attracting so much attention as how to utilize the stover of their corn-fields.

In the eastern states, such as Pennsylvania, New York and other states, they have long ago, as our fathers have told us, cut their corn on shock and husked it, stored the stover in stacks or in barns and did not let any of it go to waste; but in the western states, in the earlier days the stover fields have been permitted to go to waste, because of the abundance and cheapness of hay from the wild grasses.

These grasses are gone, and the lands which once produced them are now converted into farms. Falling back on timothy and clover, as substitutes, it was soon discovered that the ton and a half and more (often less) of timothy taken from an acre of land, made pretty high-priced fodder.

Then the farmer thought of his stover in the cornfield. These last years he has been studying that, and the possibilities connected with it. He has made some very interesting discoveries. He found out first that every acre of his cornfield produced him year by year more and better fodder than he could get from an acre of timothy meadow. This much is settled beyond dispute, which I will endeavor to show you in figures following.

Now he is trying to find the best and most economical method of saving and using this stover. We farmers have different methods; one husks and shreds or cuts with a machine, another husks the corn from the shock by hand and feeds the stalks, another tumbles the bundles into the feed lot and lets his stock do the husking and shredding. The best way is not yet fully determined, these various ways having drawbacks. It depends somewhat how you want to feed it, in the barn stable or out of doors, and to what kind of stock it is to be fed.

Shredding or cutting is meeting with much favor and for my part I like it the best, the corn being husked and shredded and the stover may be stored in a comparatively small room and is in the best condition for feeding. The objections to this method is the cost of shredding and sometimes the difficulty of keeping the shredded stover in good condition. These may be overcome by two or three farmers going together and get a small shredding machine of their own which will be the cheapest at the end, or a threshing ring, that have their own engine, get a large shredding machine, with a self-feeder and blower attached. Then you can husk when your corn is in good condition and not depend on others to do it for you. If the stalks are not thoroughly cured in the shock, but are shredded wet and sappy and stored in bulk, the stover will heat and spoil. Stover that is heated and spoiled is not profitable feed for cattle.

Now, brother farmer, I suppose that you came here to listen to what I have to say on this subject and find out for your own benefit the difference in cost of hay and corn stover and their relative value. I tell you right here that I have not very accurate figures on the cost of these products, and I doubt if we can give accurate figures, there are so many things to be considered, connected with the raising of hay and corn, but I will try and give as near as I know with the experience that I had, and with the figures that I got from other farmers.

To begin with, I will take an equal number of acres of each for a basis; I will therefore take a ten acre field of timothy and a ten acre cornfield to make the comparison in cost. On the timothy field I will begin with the mowing. I will leave the seeding of the timothy to balance up with the cornfield as that is plowed. I will not figure that in. In fixing the approximate cost I have made the wages in haying for labor \$1.50 per day, reckoning 10 hours a day,

and team \$1.75 per day, and the cultivation of corn and husking at \$1.25 per day and team \$1.75 per day, and wear and tear of machinery thrown in, as the actual wear of tools is rather difficult to get at and I will leave that to your own judgment.

Cost of harvest—10 acres of hay, mowing with 4½ foot cut.....	\$6 00
Loading with hay loader and putting in barn with 3 men 1 days.....	9 00
One team 2 days.....	3 50
Raking it over again with one-horse rake.....	1 50
Total cost for ten acres.....	\$20 00
Average cost per acre.....	2 00
Average ton of hay per acre.....	1½ ton.

Now the cost of hay is high at present, but I will take the market price that we have now, on both the hay and corn, and will figure the hay at \$9.00 per ton, which will make \$13.50 worth of hay from one acre; deduct the cost of making the hay and putting in barn would leave a balance of \$11.50.

I will now give you the cost of a ten acre cornfield. We will begin with getting the land ready for planting.

Pulverizing with 3 horses, twice.....	\$7 00
Harrowing once.....	1 20
Seed corn.....	1 00
Planting with checkrower.....	2 00
Harrowing before the corn is up.....	1 20
Cultivating four times.....	20 00
Total cost for ten acres.....	\$32 40
Average cost per acre.....	3 24

Which is the cost from the time of getting the land ready to finish working in corn.

There are various ways in cutting. The old way is cutting off by hand, and put it on shocks, and another way with a horse and sled, with knives fastened on each side, on an angle and two men on, and each take a corn row, they catch the stalks as it cuts it off and when they have an armful they put it on shock. The new way is the corn binder, which, I think is the easiest and cheapest way. I will therefore take the corn binder to fix the cost of cutting and shocking. Ten acres of corn with his own machine in good, ordinary hill corn is as follows:

Cutting and binding ten acres.....	\$5 00
Twine to bind the same.....	2 75
Two men shocking.....	5 00
Total cost of ten acres.....	\$12 75
Average cost per acre.....	1 28

For these figures I have taken several farmers' estimates and took the average to fix the cost on this ten acres.

Now for the cost of shredding and husking. It is rather difficult to get at the real cost of shredding. I could not take my own shredding alone to fix the cost for another, as corn varies. Some is light and some is heavy; some farmers husk and shred more than others, so I have taken seven different farmer's statistics of their shredding to get at the average cost. I will give the amount of acres shredded by each and also kind of machine used.

FARMER No. 1.

Hired a large machine to do his shredding, 12 rollers with self-feeder and blower attached. He paid \$1.00 for every wagonbox of ear corn husked.

He cut and shocked with binder.....	12 acres
The time it took to shred it	8 hours
No. of pitchers in the field	3 men
Unloading corn into crib	3 men
Hauling in corn from field	5 men
Teams used for hauling	6 teams
Band cutters, 2 boys and 1 man in the mow.	
Coal.....	\$4 00
12 men 8 hours, at 12 ⁵⁰ c per hour.....	12 00
6 teams 8 hours, at 17 ⁵⁰ c per hour.....	8 40
2 boys 8 hours	1 00
22 wagonboxes of ear corn.....	22 00
Total cost for 12 acres	\$47 40
Average cost for 1 acre.....	3 95
Average corn per acre.....	60 bush.

FARMER No 2.

Has his own 4-roller shredder, but hired an engine.

He cut and shocked with binder.....	22 acres
The time it took to shred it	55 hours
With	9 men
Teams for hauling in from the field.....	2 teams
Paid for use of engine with engineer.....	\$18 00
5,000 pounds coal.....	7 50
Oil.....	25
9 men 55 hours, at 12 ⁵⁰ c per hour.....	61 83
2 teams 55 hours, at 17 ⁵⁰ c per hour.....	19 24
Total cost for one acre.....	\$106 83
Average cost for one acre.....	3 34
Average corn per acre.....	60 bush.

FARMER No. 3.

He hired a six-roller shredding machine with engine.

He cut and shocked with binder.....	18 acres
The time it took to shred it	15 hours
With	9 men
Teams for hauling in from field	3 teams
Coal.....	\$4 50
Engine and shredder.....	22 00
9 men 15 hours at 12 ⁵⁰ cents per hour.....	16 83
3 teams 15 hours at 17 ⁵⁰ cents per hour.....	8 86
Total cost for 18 acres.....	\$51 19
Average cost per acre.....	3 94
Average yield per acre.....	60 bu.

FARMER No. 4.

Has his own two-roller shredder with blower. Paid for use of engine 15 cents per hour.

He cut and shocked with binder	32 acres
Time it took to shred it	66 hours
With	8 men
Teams for hauling in from field	2 teams
Oil	\$0 30
Coal	8 08
Use of engine 66 hours at 15 cents per hour	9 75
7 men 66 hours at 12½ cents per hour	56 54
2 teams 66 hours at 17½ cents per hour	22 74
Total cost for 32 acres	\$97 59
Average cost per acre	3 05
Average corn per acre	60 bu.

FARMER No. 5.

Has his own two-roller shredder with blower. Paid use of engine 15 cents per hour.

He cut and shocked with binder	19 acres
Time it took to shred it	31½ hours
With	8 men
Teams for hauling in from field	2 teams
Oil	\$0 15
Coal	4 00
7 men 31½ hours at 12½ cents per hour	27 18
2 teams 31½ hours at 17½ cents per hour	11 04
Use of engine 31½ hours at 15 cents per hour	4 75
Total cost for 19 acres	\$47 08
Average cost per acre	2 48
Average corn per acre	50 bu.

FARMER No. 6.

Had his own four-roller shredder with horse power.

He cut and shocked with binder	40 acres
Time it took to shred it	46 hours
With	8 men
Teams for hauling in from field	2 teams
Teams in horse power	4 teams
Oil and grease	\$0 50
8 men 46 hours at 12½ cents per hour	46 00
7 teams 46 hours at 17½ cents per hour	56 35
Total cost of 40 acres	\$102 65
Average cost per acre	2 57
Average corn per acre	40 bu.

FARMER No. 7.

Has his own four-roller shredder with horse power.

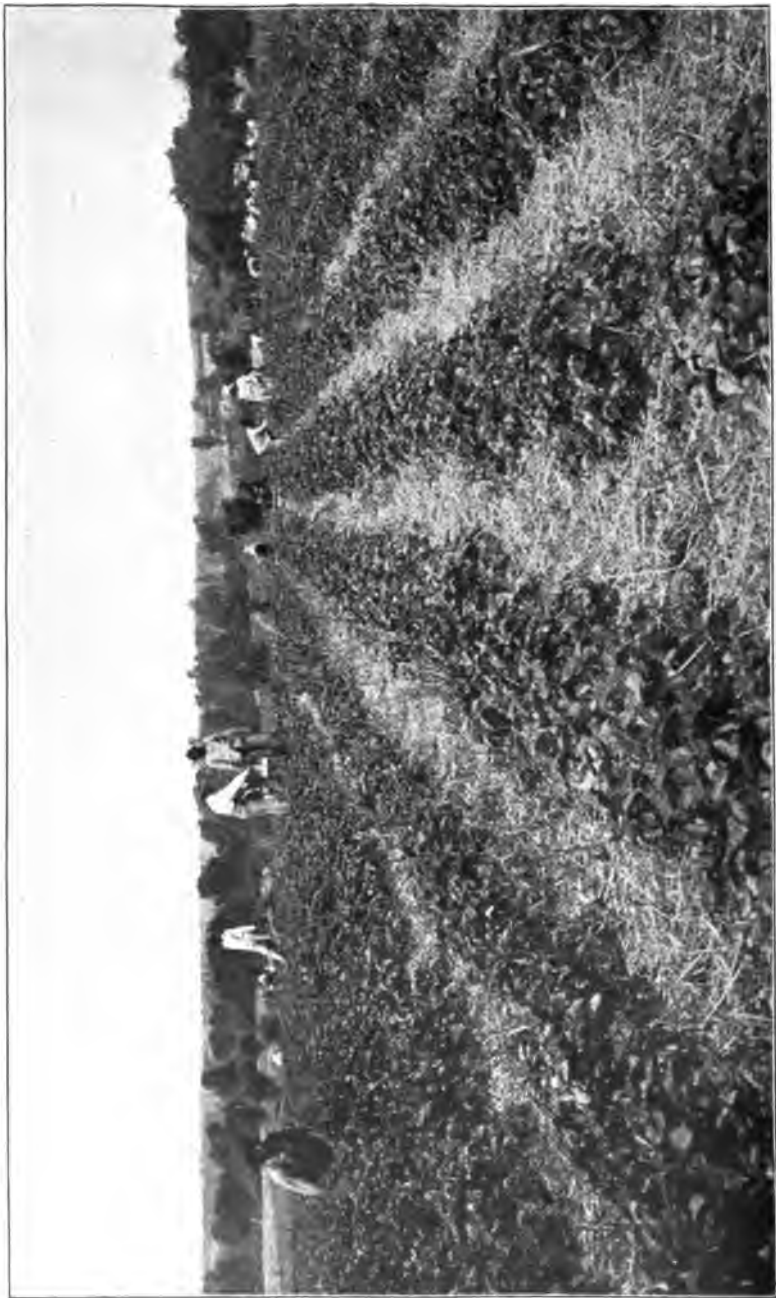
He cut and shocked with binder	29 acres
Time it took to shred it	43 hours
With	7 men
Teams for hauling in from field	2 teams
Teams for horse power	4 teams
Oil and grease	\$0 25
7 men 43 hours at 12½ cents per hour	37 66
6 teams 43 hours at 17½ cents an hour	45 18
Total cost for 29 acres	\$83 09
Average cost per acre	2 87
Average corn per acre	40 bu.

Taking these reports altogether would make the average cost per acre for husking and shredding \$3.17. Summing up the whole cost of producing the corn and stover put into the barn as follows:

Planting and cultivation.....	\$3 24
Cutting and shocking.....	1 28
Husking and shredding.....	3 17
Total cost per acre	\$7 69

The cost to put one acre of timothy hay into the barn is \$2.00. The difference in cost of harvesting one acre of timothy and one acre of corn is \$5.69. The relative value of these two forages as they are in the barn is very difficult to get at unless we look into books from experiment stations for reports, the majority of farmers do not know how much stover is grown on an acre, but if you ask them this question, which they would rather have, an acre of shredded stover or an acre of timothy hay to feed their cows, the majority will say "I will take the stover," that is, they say it will do equally as well, but it takes more bulk on account of the butts and coarse stalks that it has in it, which cattle will not eat. It is the husks and leaves which has the most value, and the coarse stalks are shredded which will absorb and retain more of ammonia to make good manure for a fertilizer, and the corn we get extra.

Let us now refer to a few reports from the experiment stations to get the more approximate value of stover and timothy hay. At the Illinois Experiment Station, Morrow and Hunt, studying the results of thick and thin planting on the yield of nutrients, reached conclusions at the end of three years that planting one kernel three inches apart produced thirteen bushels good ears and forty-six bushels poor ears or nubbins per acre and 3,968 pounds of stover, or nearly two tons. And planting one kernel fifteen inches apart produced sixty-three bushels good ears and eleven bushels poor ears or nubbins and 2,398 pounds of stover, but as I want to make my approximate value on hill corn at three or four kernels to a hill it will be safe to put it on an average of one and a half tons of stover per acre, which will be as near as we can get it and not over estimate. The nutriment or ingredients in corn stover is a great factor for producing more and richer milk than timothy hay. If it were not so do you think that dairymen would keep on feeding stover to their cows if they could make more by feeding timothy? Many farmers claim that timothy hay is better for beef than milk. Let us again refer to a test which was made at the Wisconsin Experiment Station. They compared corn stover with mixed hay, consisting of one-third clover and two-thirds timothy. (Let me say that I did not have any test at hand made with clear timothy, but this one may help us.) Four cows were used for this test, forming two lots of two cows each, one lot getting hay while the other was fed stover. After three weeks the feeding was reversed and the trial continued for the same period. Each was supplemented by 280 pounds of corn meal and 392 pounds of wheat bran. The result of the trial was found that 2,374 pounds of corn stover returned 1,120 pounds of milk, making fifty-seven pounds of butter; 755 pounds of hay returned 1,064 pounds of milk, making fifty-six pounds of butter. The returns being practically equal, they concluded that one ton of



**A VILLA RIDGE STRAWBERRY FIELD.
G. W. ENDICOTT, Fruit Farm.**

mixed timothy hay is worth three tons of corn stover or stalks, but remember that this stover in this trial was not shredded. I contend that stover is worth very much more when shredded. If one ton of timothy hay is worth two tons of stover we arrive at the following results:

SUMMARY.

One acre of timothy hay, yielding 1½ tons per acre, at \$9.00 per ton.....	\$18 50
Cost to put in barn	2 00
Making the value, less cost.....	\$11 50
One acre of corn, yielding an average of 53 bushels per acre, at 28c per bushel....	\$14 84
And 1½ tons of stover, at \$4.50 per ton	6 75
Making a total value of	\$21 59
Cost to put in barn and crib.....	7 99
Making the value, less cost.....	\$13 90

According to my estimate, the cost of putting an acre of timothy hay into the barn, yielding a ton and a half per acre, is \$2.00. The cost to produce one acre of corn, to raise, husk and shred it, yielding fifty-three bushels of corn per acre, and putting into barn and crib, is \$7.69. Therefore it cost \$5.69 more to harvest an acre of corn than an acre of timothy.

As to the relative value of an acre of corn and an acre of timothy, according to my estimate, an acre of corn, less the cost, is \$13.97, and the value of an acre of timothy, less the cost, is \$11.50. Therefore, if my figures are correct, an acre of corn is worth \$2.40 more than an acre of timothy. Estimating fifty-three bushels of corn at 28 cents per bushel and one and one-half tons of stover at \$4.50 per ton, and timothy, yielding one and one-half tons per acre at \$9.00 per ton.

THE FARMER'S GARDEN.

Read at Adams County Institute, by S. N. Black.

When the Almighty created the earth man was his last and best creation, and he placed him in the best place created, the garden, but for his misdeeds he was driven out, yet mercifully, God allowed him to make a garden for himself, and the more skillfully man has gardened the better his health and the greater his happiness.

The love of fruit and vegetables is universal, hence every one properly situated should have a garden.

The first requisite for a good garden is good ground. It is hardly possible for it to be too rich or too well drained. The shape of the garden is only important in the convenience in cultivation. Fourteen by sixteen rods is a good size, and good shape, and if possible it should be situated so that it may be ditched that no water will run on it from other ground, and if it can be located beside the cow lot or pig lot the waste or refuse will go far toward paying for the cultivation. It should be well tile drained. No investment will pay better than thoroughly tiling the garden. The above sized garden will afford ample room for grapes, blackberries, raspberries, gooseberries, currants, pie plant, asparagus, horseradish, strawberries, early potatoes and vegetables for a good sized family. It should be fenced with a close, substantial fence, and if every thing is equal, it should be laid out in rows north and south, leaving a turning row one rod wide at each end, and ten pear trees set on south end and ten cherry trees on north end. This will give shade while working in the garden and utilize the ground left for a turning row. And when you set out the trees, secure a pair of wire muzzles for the horses, that they may not bite them, besides a horse with a muzzle is much more biddable.

Plant a row of grape vines about the middle of the garden. My list would be Moore's Early, fifteen; Concord, twenty; Niagara, ten; Ives, five. When set one year, set posts ten feet long three and one-half feet in the ground,

about two rods apart. Anchor end posts well and string four or five No. 9 galvanized wires and you will have a trellis that will last you many years. After the third year you may expect an average of one ton of grapes a year, if you properly care for them. It will be well to consult your nearest nurseryman and your neighbors as to varieties of berries and vegetables. Spend little money for new and untried berries and vegetables, especially high priced things that are going to "revolutionize the world." Almost every year a new variety of potatoes is offered "at least one week earlier than any ever grown before." If this were true we should have new potatoes before March 1.

About eight feet from the grapes plant a row of gooseberries and currants, about one-half row of each. The only gooseberry that has done well for me is the Houghton. Plant Red and White Dutch and White Grape currants. Four feet from this have a row for pie plant, asparagus, horseradish and a few winter onions.

For asparagus the ground should be made and kept very rich, the quality of asparagus from rich ground being always superior. Two rows will be needed for blackberries. The "Snyder," though not first-class, is the only sure variety I am acquainted with. Rows should be six feet apart. For raspberries plant two rows of red and two rows of black. The "Turner" alone has always given me a crop. The "Schaeffer" is highly recommended. The "Ohio," "Kansas" and "Gregg" are good black varieties.

Of the above the grapes and asparagus are nearly permanent fixtures; the rest are better for being moved every few years. There is no berry that gives so quick returns as the strawberry and none pay better. Plant three rows four feet apart, the center row staminate, the outside rows pistillate varieties. If you want the best berries plant three rows every year, plowing the older bed after fruiting the second year. However, the older beds give earlier berries. The "Crescent," "Warfield" and "Buback" are good pistillates, while the "Glendale," "Dayton" and "Capt. Jack" will do for fertilizers; find out what does best near you and plant of those varieties. Cultivate in matted row, and keep clean. This ends the perennials, and we come to the garden proper.

I was asked to give a list of what to plant. Well, tastes differ. What you don't want you need not plant; but remember that what you may not like, some one at your table may be very fond of. I give the following list and distances to plant the rows: Lima beans, four feet; tomatoes, six feet; peas, double rows, four feet; mangoes, three feet; beans, three feet; pepper, three feet; lettuce, one and one-half feet; salsify, one and one-half feet; turnips, one and one-half feet; egg plant, three feet; okra, three feet; sweet corn, three feet; potatoes, three feet; cabbage, three feet; spinach, one and one-half feet; onions, one and one-half feet; parsnips, one and one-half feet; carrots, one and one-half feet; summer squash, six feet; muskmellon, six feet; cucumber, six feet; watermelon, eight feet.

I leave out celery and cauliflower and some other vegetables with which farmers do not generally succeed. Everybody wants lettuce and radishes early and to have them so requires a hot-bed; but the limits of this paper will not permit going into that. Lettuce and radishes may be planted late in the fall, and covered with stalks and straw, lightly, and have them much earlier than to wait until spring. Onions should be planted early. Lettuce, radishes and the hardy peas may be planted as soon as the ground can be worked. The "Alaska," though not strictly first-class, is good and very hardy, and may be planted much earlier than any wrinkled pea, which should not be planted until the ground is in good growing condition. Knot's Excelsior is one of the best of the dwarf peas, and if planted at same time is about as early as the "Alaska." "Hosford's Market," "Champion of England" and "Marrowfat" are good for succession. The vining peas are more prolific and not so liable to damage from wet weather as the dwarf varieties. Peas do better when planted from three to four inches deep, if the ground is in good condition. For bunch beans the "Early Six Weeks," "Improved Valentine," "Refuge" and "Golden Wax" will do. "Knife-blade," "Stringless," "Cut Short" and "Wonder" are as good pole beans as any.

Cabbage, tomatoes, egg plant, mango, pepper and sage plants may be best grown about the house in shallow boxes, first heating the earth thoroughly to destroy fungus, insects and weeds. If put about the stove they may be produced as early as from hotbeds, and with less trouble. The early "Wakefield" is good for early cabbage, and the "Flat Dutch" is perhaps the best for late. If you can get some pot-grown plants from the green house, you may have cabbage for the table before June 1st. Fine salt sprinkled all over the cabbage while wet with dew is the best remedy for the green worm, and if the late cabbage is planted far from where cabbage has been grown, the worms may not bother any of them; anyway they will not be so bad.

Plant whole potatoes for early use, and, like the cabbage, if planted away from where they have been grown, the bugs will not be so apt to damage them. Cultivate well, but not after bloom begins to show. Lima beans, "Henderson's Bush" is a good cropper. The large pole is better but not so sure.

Okra is a southern vegetable. Plant the dwarf while podded. Beets, the "Egyptian Blood" for early use and the "Long Blood" for winter use.

Of the tomatoes I prefer the "Acme" for early use and for its fine quality. The "Honor Bright" is a good tomato and the best keeper of which I know. "Stone's" is a good cropper, smooth and large.

Plant a few hills of summer squash for stewing and frying. A good place for the winter squash is to leave a row in the potato patch. The potato vines will be out of the way before the squashes need room.

Do not plant mangoes and peppers close together unless you want the mangoes hot. Plant some egg plant and do not wait until the fruit is too old before frying it.

If you want early cucumbers you may grow the plants same as cabbage; with care they transplant well. "White Spine" and "Long Green" are good varieties. A few turnips grown early will be relished. They will not be good after the weather becomes hot.

Don't forget the muskmelon. The new melon, the "Rockford," is a good bearer, a good table melon, and keeps well. The "Osage" is good, the "Hackensack" is reliable; the "Jenny Lind" is small, early and good; the "Montreal" has not done well with me. It seems hard to buy muskmelon seed true to name, at least that is my experience.

I do not think spinach is valued as highly as it deserves to be in the country. Sow some late in the fall and early spring, provided any of the family have any liking for greens.

As to early sweet corn, I have had some nameless varieties so much better than any that I know by name, that I don't feel like recommending any. The "Country Gentleman" is as good in quality as any, and "Stowell's Evergreen" is the standard for canning and drying. Plant some sweet corn every two weeks until July 1st, if you are fond of it, and you will be well paid. Cut the sweet corn as soon as too old for eating; feed it to the cow and she will produce more and better milk, and it is then out of the way.

If you like green beans, plant every three weeks until August 1st. Plant everything with a view to cultivating with a horse. You can accomplish more in one hour with a horse than you can in a day by hand. Never allow the garden to become weedy. Kill the weeds before they can be seen. If you think one and one-half feet too close for rows, put them twenty inches apart; but remember sugar beets are often planted in sixteen inch rows and cultivated with two horses. Allow no weeds to mature seed in any part of your garden, not even about the grape vines or berry patches. Should the weeds get a start in the potato patch after they are laid by, take the one-horse plow after the vines are dead and cover them up; it will do no harm to hill up the row after the potatoes are matured. Never allow a hard crust to form after a rain, or neglect work when needed, and in a few years the weeds will be well exterminated; and it will not take more than half the work thereafter to keep the garden in good order.

While we are all infallible, I feel that by the observance of these gentle hints, and by putting the same into practice, you will realize that the garden is the best paying ground that you have, both in dollars and cents, and in the enjoyment of choice grapes from your own vine and choice berries and vegetables from your garden.

TILING SWAMP LAND.

By J. H. Kinker.

Mr. President, Ladies and Gentlemen:—Your president put me on the program for tiling swamp lands, of which I know very little.

I have tiled a small tract of land, which I would call wet land, not actual swamp, but too wet to raise good crops, except perhaps in a dry season. Now as I could not always have dry seasons to suit, I concluded that I would do some tiling, for I never did like open ditches, and they are not so satisfactory as tile ditches.

I will now tell you in what manner I proceeded with the work, and the results of the same.

I first went to work and laid, what I call a main, on the north side of the tract of land I wished to tile; this main consisted of seven-inch tile, laid two and one-half feet underground. Three or four would have been better, but could not get fall sufficient to lay deeper. This main is nearly fifty rods, running east and west, with an outlet near the center. Then I dug lines of ditches from two to two and one-half feet deep which emptied in this main. These ditches were filled with three or four inch tile. The lines of these small tile were from four to six rods apart. Some of these drains were 100 rods long, but the most of them were from 40 to 60 rods in length. In this way I put all standing surface water underground and tapped several springs that never dried up till about August, and sometimes not then, and put them effectually underground with all other surface water. In this way I drained about forty acres of wet land and thereby made it the most valuable land. I used in the work a grubbing hoe, common spade, a ditching spade, and a tile or ditching scoop.

Now, I suppose you would like to know some of the beneficial results of my work.

In the first place, I will say that corn and wheat crops were an entire uncertainty on this land before it was tiled, sometimes in dry seasons it grew a fair crop but nothing to compare to what it does now.

The first year after tiling marked a vast improvement on former years; the second year I raised on 15 acres of this land, 85 bushel of corn per acre, and have never raised less than 50 bushel per acre since tiling.

Another great advantage gained by tiling is, that I can plow this tiled land as soon or sooner than any of my hill land.

Now gentlemen, it is my candid opinion if all the bottom lands in this county were properly tiled, there would be no such thing as failure of crops of any kind in the county of Pulaski.

WHEAT CULTURE.

Read at the Adams County Institute by E. L. Grosh.

Mr. President, Ladies and Gentlemen of the Institute:—It is with a feeling of timidity that I present to you a paper on wheat growing after the disastrous failures of the last three years, yet I believe those to be due to certain climatic conditions, which may occur again this winter or may not occur again in your lifetime or mine. It has usually been thought that a light, sandy and gravelly loam soil was the best for wheat. We hear people talk of natural wheat land. The above is the kind meant, and it is a fact that nature has fixed them all ready for profitable wheat growing so far at least as drainage is concerned. But I believe our heavy soils can be made just about as productive as the natural wheat land if it is properly drained by

man. It may take more labor perhaps to properly prepare them and the risk from winter killing may be greater, still I do not hesitate to make winter wheat one money crop in my regular rotation, and till the last three years have raised paying crops on the average.

Thorough drainage is the very foundation, without which my success would be very much a matter of luck. With the very best preparation of the soil, with an open, wet winter and a great deal of freezing and thawing on flat land, like a great deal of it is through this section, is certain to take nearly, or quite all, the profit out of the business, and will in all probability make you work for less than what you pay hour hired man. Observation, coupled with practical experience for years, proves that there can be no really successful wheat growing, especially on our heavy soils, especially when flat without drainage. I have watched this point for years. Frequently they may have good paying crops on such soils and then almost failures. It would be difficult to find a real flat farm, where no drainage had been done, that can show a yield on the average that would pay cost of production for a series of years in succession. If intending to make wheat growing a success, I would say first of all attend to the draining and to getting plant food enough in the soil to bring as large a crop as the straw could stand up under or possibly a little more, so as to be sure to have enough.

The principal source of fertility for wheat on my farm comes from growing clover in connection with careful manure saving. Even at the present low prices we can make some money in growing wheat in rotation with clover, because we must have the clover to keep up the fertility of the farm. A clover field may be turned under, especially for wheat, but I always prefer to raise a crop of corn first, and then put in the wheat. There is most too much nitrogen in the soil if the growth of clover was heavy for wheat to follow clover. The growth of straw will be too great, as many of you have noticed, and the wheat lodges badly, the yield is not as good as expected, and the quality of grain is very poor. I do not believe there can be any better preparation for wheat than a thoroughly worked corn field, which had been a heavy clover sod the year before. Possibly a summer fallow might show a good, or even better, results, but it would not be as practicable, as the income from the corn would be lost. You see what I do is to plow the clover sod in spring for wheat, work it all summer like the old-fashioned summer fallow, but meanwhile I get 80 bushels of corn, more or less, and do not decrease the yield of wheat particularly by taking off the corn. The clover has left something in the soil for the wheat. But the thorough tillage all through the summer has helped get the plant food ready. When we do thorough tillage and follow it up properly we are helping more than the present crop. In fact, it is hard to tell just where the benefit of thorough tillage will end.

Now let us talk of the more immediate preparation of the soil after the previous crop has been removed, whatever that may have been. I have said for years that one or two dollars' worth more labor judiciously expended in extra work on wheat ground in preparing it better would bring the farmer a much larger percentage of profit than what he had already done, and yet this extra labor and all may be lost from lack of proper drainage. Drain your land first and then work it as much again as is usually done, and you are on the road to getting plenty of plant food for a paying crop. I want my land just about as fine and firm as I can make it. When I began farming it was with only a plow and straight-toothed harrow and roller. With these tools I did the best I could. But especially when preparing land for wheat I never felt satisfied. If it was for corn or potatoes and not well prepared, the deficiency could be partially made up afterwards, but with a wheat crop, the tillage must be given before the crop was put in. One fall I was preparing oat stubble for wheat; it had been plowed and harrowed and well rolled and perhaps harrowed and rolled again, until pretty well settled. I felt as though I wanted something to tear that soil up so I could pulverize the clods underneath that the harrow would not bring up. So I took my corn cultivators and went lengthwise and crosswise of the field and harrowed and rolled and then cultivated again, tearing the ground up most thoroughly. When it was finally worked down and ready for seeding, it looked no different from usual, but I knew it was a more thorough job than I had ever done before. What

do you think was the result: Ten bushels more wheat per acre than the field had produced before and no manure put on since raising the last crop. The cultivator was used even more the next fall. Well, the second year I had fifteen more bushels per acre on another field than it had produced before. Now, I do not contend that all this gain came from the extra tillage. The season may have been better or the clover growing may have been increasing the fertility, but I feel sure that a good, large slice of that ten and fifteen bushel per acre came directly from the better preparation of the soil. After corn so much tillage is not needed if you have done your duty by frequent tillage of the corn, as the land has been worked nearly all summer. I do not allow it plowed when preparing it, as there would not be sufficient time to get it settled again after corn cutting time, but usually cut it lengthwise with disc, lapping half, then use the harrow to level it and then roll and harrow and roll until we get it as fine and firm as we can. When preparing sod or oat stubble for wheat where there was plenty of time I try to work the ground every few days, at least once a week, always as soon as dry enough after showers. When I drill in the wheat I want the soil so fine and firm that the horses hardly sink in any worth noticing. We work the ground so often that a horse has stepped on nearly all of it. But remember this must be done when the ground is reasonable dry, you can do no damage then. Some use the drag or clod crusher in place of the roller. This drawn over the surface makes it look very nice and smooth. But a roller draws easier and packs more, as it seems to me. But now I have argued fine tillage pretty strongly, there is one draw back that must be told. On our heavy soils if they have been worked down very fine and a heavy rain comes right after seeding sometimes more damage will be done than if the land had not been worked down so fine. It runs together more and bakes worse. If the soil was coarser on the surface it would not bake so badly. You see there is this risk to run. I have suffered some in this way, but as a rule, this extra pulverization has paid well. I prefer to take the risk with this precaution, however, that I will try to sow before the storm rather than after. If the weather is very threatening, unless too late to risk waiting, I will not sow till after the storm is over. I always prefer anyway to sow after a rain in moist soil. Work when dry, but sow when moist. This causes a quick start. We want mellow but firm settled soil. Then the little plants have a chance to grow rapidly from the start. They need fine soil all around them. To give it a chance to start vigorously it wants to be in soil prepared as for garden seeds. Then you can drill wheat shallow and it will germinate better and it does not have to send its roots down two or three inches for suitable feeding ground, as it does when the surface is cloddy. Then it can grow on the surface a more network of roots, spreading all through the fine surface soil so that when freezing and thawing comes the whole surface rises and falls together. It is hard to heave out wheat growing thriftily like this on drained land. But suppose the surface is not fine, but cloddy, and the roots have gone down more, they must surely be broken more by freezing, and so the plant has but a few surface roots instead of a lot of them and is easily winter killed. Now, I wonder if any farmer at this Institute will again put in wheat on land all covered with clods from little to very large, perhaps arguing that these will protect the wheat as I have heard so many do. I hope not. Wheat needs feeding properly and it will protect itself. Pulverize the clods and let the wheat feed on it and gain extra size and strength.

There is no winter protection equal to a large fall growth falling down around the plant. But we now have the properly prepared soil well drained and plenty of plant food ready, let us think about preparing the seed. First we want a variety suited to our soil, and that will sell well. I have very serious doubts as to whether there is any better variety of wheat for my farm than the old Foltz, still I sowed some of a new variety this fall called a scientifically mixed wheat with red and white Foltz as a base, with about one-third bearded. It seems evident that the seed should be entirely clean. Many farmers are too careless about cleaning their seed wheat. You sow a little cheat in with your seed, perhaps hardly enough to be noticed, and then an unfavorable winter follows, more or less of the wheat is killed and leaves the more hardy cheat to grow.

It is needless for me to say that the best way to sow winter wheat is with a good hoe drill that deposits the grain evenly. A few years ago I thought possibly that wheat put in with a press drill might give better yields, but after several years of close observation, I can see no material gain in the yield. I believe in shallow sowing in fine, but firm, soil. I want no wheat put down no more than an inch unless it is so dry that I fear that it will not germinate at that depth, when I would put it a little deeper to get through the dry surface. I do not suppose that one-half an inch one way or the other makes any particular difference, but I want it near the surface. I have frequently seen men drilling where the hoe went down in places three or four inches and perhaps in other places not half so far.

As to time of sowing as a rule I prefer to take my chances in sowing rather early. I prefer to sow from the tenth to the fifteenth of September, earlier or later, as the conditions may be right. But some one may say will not the Hessian fly injure the wheat sown so early? I had much sooner risk a strong rank growth against the fly than the feeble growth from too late sowing against the winter.

How much seed shall we use? This depends on the fertility of the soil and the time of sowing and the variety of the wheat. On rich soil less seed will do. It will stool out more. If you sow early less seed will do, because there is more time for it to stool. You may sow less of a variety that has small grains, because there is more of them in a bushel. All very simple and sensible. If I sow early five pecks of Foltz is sufficient for my soil, should I be delayed a week or ten days about sowing I add a peck, and in the same proportion if longer behind. I strive to make up in number of plants what I fell short in size. The lay of the land has much to do with one's success in wheat growing. An easterly exposure is safe; a northwesterly one is not so good.

It is hard to say just what profit there is in wheat growing. The money you get when you sell your wheat doesn't represent the whole matter. You must have a rotation to do the best farming. The wheat comes in as a sort of a necessary factor. Corn is the main money crop, but we must grow clover to furnish fertility. I can just as well as not raise the wheat along with the clover as a crop to seed with. Now I know very well that times are hard, prices low and many farmers are discouraged. A neighbor said to me the other day it takes a man with a stout heart to farm these times. But let me say in conclusion, friends, try practicing better methods, the best you know. It is of little use, as a rule, to change from one business to another, stick where you are, but just do your best to improve in every way possible; get better stock, take better care of them; get better seed; prepare the ground better; study your business more. I believe a farmer's greatest enemy is often back of will power and faith in his own strength.

LETTER ON LISTED CORN.

By S. W. Allerton, Chicago, Ill.

Mr. Thomas Lamb, Jr., Secretary of Piatt County Institute, Bement, Ill.

MY DEAR SIR:—I regret that I can not be with you, as I love to shake hands with the people of Piatt county. You have given me for discussion the result of listed corn. Now I think this is an important question to discuss at your Institute. It is not supposed a man living in the city should know much about farming, but having spent ten years of my life behind the plow I have some practical experience about farming.

When I lived on a farm the tools for cultivating corn were very crude. We plowed our land and harrowed it and then we marked it out with a little one horse cast iron plow, which left a furrow in which to plant our corn, and I have always felt that corn should be planted in a furrow, one spear in a place, as a spear of corn growing along side of another spear is always an enemy.

About twelve years ago I made a lister by remodeling a corn planter which pulled apart when we put four horses on it, and Mr. Thompson said it would

not do to plant corn in a furrow as it would rot in the ground. But two years ago I had Mr. Thompson buy a lister and had him pick out the poorest and wettest 140 acres of land south of Bement. The ground was broken in the fall and one man raised 140 acres, and it was much better than the corn planted with a planter, and yielded fifty-five bushels per acre. I went down to see it and I thought it was the cleanest piece of corn we had. There was a heavy stubble on the land when they broke it in the fall and when they went to plant it in the spring they could not plant it very deep. This satisfied me that with a lister was the true way to raise corn and so we bought listers for other farms. It was new to the men who cultivated the land and they let the lister in too deep. My son would come home and say, "father, your listers are a failure." He said John Phalen had 160 acres planted on a blue grass sod with a corn planter and he said this was the biggest piece of corn in the county. Next to this 160 acres we had 160 acres of land planted with a lister which he said did not look well. The 160 acres of corn planted with a corn planter was cultivated to perfection.

After the corn got ripe I went down to see Mr. Phalen and said I wanted to see his big piece of corn. I went through the corn and then went through the piece, which was the 4th crop, which was planted with a lister. I said to Mr. Phalen, "The ears on your listed corn are much bigger and will yield one-third more corn than the big piece of corn Robert has bragged about so much which was planted on the blue grass sod." Mr. Phalen remarked, "Yes, I think I shall get my seed out of my listed corn as the ears are much bigger and better."

On the farm south of Bement we hugged in 1000 acres of corn with eight men, and only one-half cultivated it, and still we raised forty-two bushel per acre. Any man who will plow his land in the fall or spring and have one man raise eighty acres so he can go through his corn six times, which he can do, plant his corn with the natural fall of the ground so when very wet the furrow will act as a drain to the water, see that he has uniform seed to plant so he will only drop one kernel in a place one foot apart, he would raise one-third more corn with a lister than with a checkrow planted in hills. A man with four good horses should have part of his ground plowed in the fall and the balance in the spring, and a man with four good horses can raise eighty acres of listed corn as well as forty acres with a checkrow and can keep it cleaner. But he should not let his lister run so deep that it turns up the yellow soil; it should not be planted deeper than four to five inches. Now, this is my opinion of the lister.

In Lancaster county, Pennsylvania, all their corn is raised with a lister and their land is worth \$150 per acre, it is planted one spear in a place and Lancaster county feeds forty thousand head of cattle every winter.

Now, a good farmer would take 80 or 160 acres of land plant one-half with a lister and the other half with a corn planter and then when he gathered his corn in the fall, weigh it, and I think he would see that he raised one-third more corn with his lister than he did with his checkrow planted in hills. The great advantage of planting corn with a lister is that the corn is planted four to five inches below the surface and when you cultivate it you don't cut the roots off, and when we get dry weather in July and August, the corn is in a better condition to stand the drought.

I always notice where farmers planted corn with a checkrow on the top of the ground in hills, they always put their double shovel plow deep in the ground in June so as to hill up their corn and cover up the weeds, and then in August, when the hot winds come it dries out this ridge and the corn fires. It must be remembered that if you wish to raise corn with a lister you must plow your ground in the fall or spring, as land that has had corn planted on it the previous year is liable to break up cloddy and roll down into the furrow. Necessarily you must have your ground in as good condition to raise corn with a lister as well as with a corn planter. The only true way to solve this problem is by an actual test. Plant one-half of the corn with a lister and the other half with a corn planter and then gather your corn in the fall and weigh it.

A farmer who will do this and take pains to have his land in just as good a condition when planted with a lister as with a checkrow, I judge in the future would always raise his corn with a lister.

I am still of the opinion that the Farmers' Institute should not only discuss better ways of raising crops, but also discuss public questions which farmers are interested in.

I received a letter from the Piatt County Herald, asking me to give my views in regard to corn and wheat being so low, while cattle and hogs brought a good price. Since I wrote the letter I have been discussing the matter with some very intelligent men and they claim that bucket shops have destroyed speculation in grain, as the greatest proportion of all the trade in grain is done in bucket shops, and as ninety per cent of the men who trade in grain are long buyers and when bucket shops get loaded with long grain they combine to sell on the Board of Trade and breaks the price and close out these long buyers.

I am inclined to think that all bucket shops are great enemies to the producers of grain, as without speculation we could never increase the price of grain unless it was from the scarcity of the product.

I know there are a great number of people who think speculation is a great evil, but the truth is, every boy's life is a speculation of what he will do. The greatest speculator I know of is a farmer who will sow a crop of wheat and prepare his ground and lose his entire investment. Every crop we put in the ground, in one sense, must be done on a theory of speculation of what we will raise.

GOOD ROADS DEPARTMENT.

GOOD ROADS—HOW TO MAKE THEM WITHOUT ROCK, SAND OR GRAVEL.

Read at Champaign County Institute by Mr. Van Vleck, of Philo before two Farmers' Institutes.

The importance of good roads in Illinois is a subject that is receiving much attention by all classes of people that have to travel over them, and they are justly complaining that they are not as good as they ought to be. Many people think that we ought to have a good macadam road and that it would pay us to build hard roads even in central Illinois. The experience of Indiana and Ohio, where they have rock and gravel at hand, ought to warn us how impossible it would be for us to build such roads here. The cost with material close by is not less than \$2,500 per mile, and the taxes, even in those states, reduced the farm values \$15 to \$20 per acre.

We all know that pike roads cost the farmer many an extra dollar in horse shoes and buggy tires, and that draft and driving horses are easily stiffened by hard road beds. The only point for us to consider is how to build a good road without rock, sand or gravel. We ought to have a system in improving our roads and adhere to it closely. I would suggest the following plan: First, grade the road from fence to fence in a manner that would leave the middle of the road about two feet higher than the outer edges. To do this work I think an engine with a plow and grader would be the best, although it can be done with good teams. All elevations should be cut down, and all depressions be filled as much as possible, making an uniform and easy grade. All trees should be removed from the right of way, and be planted in future only on the fence line at not less than 100 feet apart, and then only hardy trees such as sugar maple, ash and elm, or walnut. The law should be enforced in regard to hedges and the trimming of them, and the roadbed kept so that the mower can pass over every foot of the ground without cutting hedge brush or wire.

When the grading is completed it should be well harrowed and rolled with a four horse heavy steel roller, made in three sections so that it will fit any ground and can be turned easily. The roller is to be used in place of the smoothing grader, especially in the winter months. It will do good work on rough, partly frozen ground where the grader could do nothing. It should be owned by the township, and be free for any farmer to hitch to when he wanted to deliver his grain to market. Notice of a cold wave coming is the time to give the road a round trip with the roller. Next comes the drainage—the most important thing in good roads. Tile can be run only at the outer edge of the road bed as a traveled track will not let the water down to the tile. The culverts should be as few as possible and should be made of sewer tile covered deep, and extend clear across the road bed and be protected by a good stone or brick wall laid in cement at each end.

The road is prepared for the regular visit of the smoothing grader, which can be run in each township one hundred days at a cost of \$500, which is only about one-third of the road and bridge tax usually laid in each township. Most of our roads are laid four rods wide and some few three rods. We ought to be thankful that we have the wide road. The properly graded wide road has virtually ten tracks for the wagon, while the narrow road has not quite eight, and in the long wet spell will be cut up more.

We ought to adopt the wide tired wagon and a law that exempted it from taxation, or give a bonus for its use would help us to better roads. Finally, and last, all road taxes and poll tax should be paid in money, and the office of path-master be abolished. Let us pay more attention to the office of highway commissioner, electing only the very best men without regard to party, men who will work to a good plan and enforce the law in regard to obstructing the road in any manner with plow or hedge.

A smooth road that farmers can mow will be kept free of weeds and in a short time will grow only blue grass or clover. There are seventy-two miles of road in a township, if we follow section lines. You will see that it would impoverish any community to build hard roads for one-fourth of them, and the advantages of a good dirt road are most of the year with the farmer, so that he ought not to envy the hard road man with his extra taxes and extra expense of keeping his horse shod all the year. We are having a class to contend with who have an axe to grind in furnishing material for hard roads, another class who want the bicycle and carriage specially provided for. Farmers will be wise to look after the new members who are to be our law makers, that they do not give such people a foothold to tax them for a luxury they can not afford. Our roads should have all the sunlight and breeze that can be given them. Of course, shade is very nice on a hot summer day, but we can not keep a well shaded road in good order. It is sure to breed mud holes and will not have a good, solid road bed only in midsummer.

OUR ROAD LAWS.

By Judge Anthony Thornton, at Institute.

I have been requested by the committee on program to present a summary of certain provisions of the laws relating to roads, and particularly as to the duties of the commissioner of highways in the removal of weeds and obstructions in the public highways.

All roads laid out in pursuance of law, or established by dedication, or used by the public for fifteen years are public highways. No particular time is required to make a dedication. It may be by deed or verbal declaration, or by acts, such as fencing. For a long time twenty years' use and travel were required to make a public highway, but now only use for fifteen years is necessary.

It is the general duty of the commissioners to keep all roads and bridges in repair, and to exercise such care and superintendence as the public good may require.

Specific Duties.—It is the special duty of the commissioners to erect and keep in repair, at the crossing of important public roads, posts and guide boards, with plain inscriptions thereon in letters and figures, giving directions and distances to the most noted places to which such roads may lead.

It is also their duty to prevent thistles, burdock, cockle-burs, mustard, yellow dock, Indian mallow and gympson weed from seeding, and to destroy the same, and also to prevent all rank growths of all vegetation in the public roads, and to cut and destroy the same before the seeding thereof and at the farthest before the first of September in each year.

It is their duty to prevent plowing in the public highways for any purpose, unless by the consent of at least two of the commissioners.

For the wilful refusal or neglect to perform any of these duties the commissioners are each liable to a fine, not less than ten nor more than fifty dollars. They may be sued for the penalty, separately or jointly, before any justice of the peace, and the town in which they reside must be plaintiff in the suit.

Hedge Fences.—The law relating to hedge fences is somewhat obscure, but I will give the substance of it, as I understand it. The difficulty is to determine whether the fence should be trimmed to the height of four or five feet. In the absence of any construction of the statute by the courts I shall assume that it may be cut to five feet.

The law makes it the duty of the owner of a hedge fence along the public highway, after it has attained the age of seven years, to cut back or thin such fence annually, so that it shall not exceed the height of five feet and so that the highway shall not be impaired in usefulness or convenience, or obstructed and the public health injured. The act does not apply to any hedge protecting an orchard or a building. The commissioners of highways, at their discretion, may permit the owner of a hedge fence to grow the same to any height he may desire not to exceed one-fourth the total distance of such fence along the highway as a windbreak for stock, but in such case the owner must trim the fence on the road side so that the public highway is not obstructed to exceed four feet from the line of the road.

If the owner fails to comply with the law on or before the first day of October in each year he is liable to a fine, not less than ten nor more than fifty dollars, and it is the duty of the commissioners of highways to bring suit and enforce the penalty. Suit must be brought in the name of the commissioners.

In case the owner of such fence is a non-resident of the county, it is the duty of the commissioners to have the fence trimmed and to bring suit for expenses.

It is the duty of the commissioners to bring suits for the recovery of all fines and penalties; and all suits, where not otherwise specified, must be brought in the name of the town. If the commissioners neglect to enforce the law in any case, or fail to perform their duties, any citizen may bring suit in the name of the town for any fine or penalty, either against the commissioners or any other person; but in such case a bond for cost must be given.

Obstructions.—The planting of willow hedges on the margin of roads is declared to be a nuisance.

If any person shall injure or obstruct a public road by felling a tree upon the same, or placing or leaving any obstruction thereon, or encroaching upon the same with any fence, or by plowing, or digging any ditch or other opening thereon, or by turning a current of water so as to saturate or wash the same, or who shall leave the cuttings of any hedge thereon for more than ten days, he shall for every such offense, be liable for a sum not less than three nor more than ten dollars; and in case of placing any obstruction upon the highway he is liable for the additional sum of not exceeding three dollars per day for every day such obstruction shall remain after any one of the commissioners shall order the removal of the same.

Any person may bring suit in the name of the town for these penalties.

It is unlawful for any land owner, renter, or other person to deposit in a public road, weeds, trash, garbage or any offensive matter, and for so doing he shall be liable to a penalty, not less than three nor more than ten dollars.

If any person shall destroy or injure any public bridge, culvert or causeway, or remove any timber or plank therefrom, or obstruct the same, he is liable to a fine, not less than three nor more than one hundred dollars.

Any person owning any carriage traveling or running upon any road, who shall knowingly employ, or continue in his employment, any driver addicted to drunkenness or the excessive use of spirituous liquors is liable to pay five dollars per day for every day he shall keep such driver in his employment.

Any person driving his own team, or the team of another, when intoxicated, is liable to a fine, not less than three nor more than twenty-five dollars.

Whoever shall be guilty of driving or racing on any public highway in such a manner as to endanger the lives or persons of others, is liable to indictment and to be fined not exceeding one hundred dollars, or imprisoned in the county jail not more than thirty days.

THE PREVENTION AND DESTRUCTION OF WEEDS ON THE HIGHWAY.

Read at the 12th Congressional Institute, by A. F. Lambert, Romeoville.

When we speak of the highway or public road, we speak of something in which we are all interested, for one of the greatest blessings of farm life is good thoroughfares.

But how can we have good thoroughfares when they are rough and mirey in the spring, and obstructed by weeds in the summer and fall?

Some will say that we can not help the bad roads in the spring any more than we can help the snow and the rain. Yes, we can. We can make roads not so susceptible to these weather changes.

Many localities have roads that are as good in winter as in summer. Good roads may be made more cheaply now than at any other period of the world's history. We have knowledge acquired in the past ages; we have the intelligence, experience and research of scientific minds backed by practical and conclusive tests.

But how are we going to manage to keep the weeds off these highways? I know of no other satisfactory way of the destruction of them than to cut them down.

The law of Illinois requires the public highway to be sixty feet wide. There is, however, a provision made that on petition for a new road, if a majority of the land owners living along the line of said road sign a petition for a less width than sixty feet, then the highway commissioners may, when the interests of the public permit, authorize and lay out a road of a width not less than forty feet. Now, I am very much in favor of a narrow road, if rightly constructed, say from forty-four to forty-eight feet wide is plenty wide enough for a country road, especially if the road has a gravel track.

I have been on roads where the dirt track was near the fence, next to it was a ditch, some big weeds and a few hard-heads here and there; then a gravel track, then another ditch and some more weeds; next to this another dirt track.

If you were on one track and wished to see who was coming on the other track, it would be necessary for you to stand up in your buggy to see over the weeds.

Now, if you had a forty-eight foot road, graded the full width of the road, I do not mean graded to the same slant that you would give a barn roof; water does not need a pitch of forty-five degrees to run down, but give it an easy grade.

Put the gravel track a little to one side of the centre of the road, and the dirt track next to the gravel, and have it so you can turn off the gravel track onto the dirt track any place.

A highway constructed in this manner will not only have a much neater appearance, but will have more room for the travel, less room for the weeds and not only these, but the farmer, from the one rod gained, can raise enough potatoes to pay his road tax and have some to eat besides.

The way we find most roads worked at present is a track graded up in the center with a ditch on either side about sixteen feet from the fence; now of what use is that part of the highway which lies between the ditch and fence?

I can not see of what use it is to the public when they seldom travel on it. Some of us when driving colts and meeting bicycles, etc., know from experience, after finding ourselves in a mix-up in some of those ditches that they are of no great value to us. I say put the ditch if you must have one next the fence.

The old way of grading roads high, in order to get out of the mud, does not work. You may grade them ten feet high and when the frost goes out in the spring the mud is nearly that deep.

The sides of those grades are regular hot-beds for growing weeds, and how are you going to get at those weeds to cut them? In fact it will take a man with a tomahawk to cut some of them. They are so large and strong you can almost trim them up for a forest.

The highway commissioner is one of the most important officers of the town. How can you expect a man of poor judgment and no push to make good roads? He can put in his time, spend your money, do a poor job, etc. But men like to see something done for the money spent, and they have a right to, for the tax money seems to come hard. Think before you vote; for by voting for a man you say, "I am not afraid to put my road tax money in his hands to spend." If a man can not make a success of his business how can you expect him to make a success of the town's affairs? He always is going to do it, but somehow or other never gets at it.

Some men think when they are doing public work all they have to do is just manage to put in their time. Some of them are good time killers, and if the commissioner is one of that class they will surely have a good time and it will be at your expense. You will be found still wallowing in the mud the same as you were before his election.

But if we wait to gravel the roads keep the weeds cut, build bridges, etc., out of the road tax; our roads will never all be graveled. If we want good roads we must find some way whereby our money can go towards building hard roads. I say let the law compel the land owner to see that the weeds are cut along the farm, and they will not only be cut but the road will be kept clean and free from brush, rubbish, stones, etc.

Some men are very anxious for the office of highway commissioner, but when they get there and find what they have to contend with, and how hard people are to please, they think like the little boy, who always wanted to taste what his grandfather was taking. One day the old gentleman was taking quinine; the little fellow teased for a taste, so he gave him a little on his knife and asked him if it was good. "Yes—yes, it's good," he said, "but I—I don't want any more."

We seem to be peculiarly a people of fads, and abusing highway commissioners seems to be one of the fads we are indulging in just now. For even the rains which make the roads soft, and the sun which does not shine to dry them, he is held responsible. The city editor, when his thoughts turn to roads, finds fault with them. Bicyclists, venturing into the country, talk of having him arrested, and his neighbor farmers soundly abuse him and often scatter oaths for his benefit.

Our own observation has been, that the highway commissioner is perhaps the poorest paid, for the service required, and one of the most unjustly abused officials we have.

With few implements, and but little money to buy more; with an insufficient number of men to work and with but little money to employ labor, he and his associates are expected to keep in repair throughout the year from seventy to one hundred miles of road; build new bridges, and repair old ones; keep culverts in repair, and put in new ones; to open up new roads and straighten old ones, and to cut the weeds on all the roads; for I have failed to find the road that did not need mowing, at least once a year.

Besides all this, build one or two miles of gravel road; and then he must expect to stand all manner of abuse, forever resign all hope of securing any future office within the gift of the people, and by way of spice have an occasional lawsuit on his hands. For all of which he receives the magnificent sum of fifty to one hundred dollars per year.

Now I am in favor of taking some of these off his hands. I say, let the farmers cut the weeds along their farms. I would be in favor of changing Article one (1) of Section one hundred twenty-four (124), which reads: "The commissioner of highways shall annually, at the proper season, to prevent the spread of the same, destroy or cause to be destroyed all cockle burrs,

Canada thistles, Russian thistles, and all other kinds of thistles, or other noxious weeds growing on the respective highways;" and let it read, The abutting property owners shall destroy or cause to be destroyed all noxious weeds, etc., in the highway along their land.

The public has simply an easement of the highway. The farmer can pasture it or if he chooses can cut it for hay, but if there are weeds growing he can compel the highway commissioner to come and cut these weeds. I think that is not right. If it is right for him to cut the hay, it should be right for him to cut the weeds.

We want good roads, and how can the commissioner build hard roads when it takes one-half of the money to cut the weeds and the other half to keep the bridges, etc., in repair? On the other hand, if the farmer should see to it that they were cut along his farm, he would take pride in keeping the highway clean. Why, I have seen men going along the hedge fences along the road with a hoe, just as you have seen a boy going along with a shotgun expecting a rabbit to jump out at any moment; but he was looking for a weed he might strike down; but he will not cut them out in the road because it is the commissioner's place to do it.

I have known of men to spend a day or two pulling burrs out of their fields, the seed of which came from the road down a ravine in the field and scattered over the field; but would not spend one hour cutting the burrs in the road simply because the commissioner cut the weeds along the Jones farm and did not cut them along his; where if it had been his place to cut the weeds, not one of them would have gone to seed. Most farmers are very particular about weeds spreading on their farms. Talk about their being neat. Why, some of them will not have even a dandelion growing on their lawn. And lawn mowers, they are almost as common among farmers as cats.

We are progressiag. The farmer of today and the farmer of twenty-five years ago are entirely two different farmers. We have now more system about the work. Our houses and barns are improved, our plowing looks different, our corn rows look different, our horses, cattle, sheep, pigs and chickens are of a different grade now from what they were a quarter of a century ago.

But our highways, our country roads, have been somewhat neglected in regard to getting the weeds mowed on them; they do not correspond in appearance with our improved farms.

If the law required the abutting property owners to cut the weeds, I think they would all be cut, because farmers take pride in having their farms look as well as their neighbors'; but men do not like to get out on the road to cut the weeds when it is the commissioner's place to cut them; and the commissioner does not like to cut them along the farms of A and B and not along the farms of C and D; in fact it would not be right to do so, for all pay taxes. For this reason, if he begins to cut them he does not know where to stop; because they all need cutting, and if he cuts all of them he will have no money with which to build hard roads.

Now up in our town we have been using every dollar we caught hold of for graveling purposes, and are making the dollars reach just as far as we can, at that.

Many of our townsmen see the object we have in view and turn out and cut the weeds without finding fault with the commissioners.

Wherever you find a muddy road cut up with the teams in the spring you will find weeds during the summer. My advice is, if you have a commissioner living near you, help him to get your road graveled, if you are fortunate enough to have any gravel near. Get up a petition and get all the donation work on it you can; state in your petition, if you choose, that the work is to be done in the winter, then your teams will be idle, and you will never miss the work; for it may be the chance of a *lifetime*.

Like the Irishman who just came over to this country: "He went to a hotel for his dinner; the waiter gave him the bill of fare, and, as he could not read he watched the fellow who sat next to him; the gentleman took the first on the bill of fare, which was soup; so he said he would take some of that. He

ate it and when the waiter came again, he said he would take some more of the next. That was soup, too. He ate that, then he did not know what to do, but said he would take some of the next. It happened that they had three kinds of soup that day. The waiter by this time caught on that he could not read and brought on the full bill of fare for him. He threw up his hands and said, 'Here is a chance of a lifetime, and I am filled up with soup.' "

We are going to have better roads and we are going to have them kept clean. The next few years will see a great change in this direction. There is a provision made in the law, an act that was passed in June, 1897, for altering roads, which just suits me and I think the farmers ought to take advantage of it. The provision is, "That commissioners may, when in their judgment the interest of the public will permit, narrow or reduce the width of public roads to not less than forty feet, when the same is petitioned for by a majority of land owners along the said road."

Now farmers often ask themselves, how can I make a hundred dollars? Well, I will tell you. Just petition the commissioners to narrow the road along your farm, and thereby gain an acre or two. The soil which grows such large weeds in the road will grow good corn if in your field. The public will have a neater and a better appearing thoroughfare.

The farmer displays the wisest economy who maintains the greatest liberality to road improvement, and he is a benefactor who improves the roads of his county.

TILE DRAINAGE FOR HIGHWAYS.

By H. T. Thompson, of Huntley, Ill., at the McHenry county Farmers' Institute, held at Harvard, Jan. 31, Feb. 1 and 2, 1900.

Mr. President, Ladies and Gentlemen:—My subject is Tile Drainage for Highways. There is no subject of more importance to the farming community, and in fact to everyone, than this. In my opinion tiling is the foundation and should be the starting point for all road construction.

I have been very much surprised to see how few there are who understand tile drainage, especially for roads; even among the intelligent and progressive farmers very few know anything about it.

Not long ago I asked one of our Road Commissioners why they did not use tile on the road. He said, "Oh, they do no good; its only a waste of money."

That is probably true if not properly put in, but where they are, money can not be expended to better advantage than in tiling our highways.

Some seven years ago I commenced studying tile drainage for my own benefit to use on my farm. From that I have studied its effect on roads. I think there is not a rod of road in McHenry county but what would be benefited more than its cost. You may think this is a broad statement, but I have not made it lightly nor without full consideration.

Most people think the object of tiling is to draw off the surface water. This is one part, but a small one compared to draining off what might be termed the underflow.

I have noticed that in many places when ground freezes in the fall after a dry time, that in the spring when the frost comes out it will be very wet, much more so than you would expect from so dry a fall. I looked for a cause and came to the conclusion that after the ground froze in the fall, water rose from beneath until it reached the frost line where it was held until released in the spring, leaving the ground very wet and miry.

To be certain that I was correct in this I wrote to Prof. Henry, of Madison, Wis., giving him my views and asking him if they were correct. The answer came from Prof. King, "Your inference, that when the ground freezes in the fall after a dry period, that in certain localities the water rises from below and saturates the soil below the frost line and so, if the ground is not drained, leaves it exceptionally wet in the spring, is correct for many cases. Such pieces of land are usually made too wet by an underflow of ground water which, if not allowed to drain off, brings it to the surface by slow seepage upward under the hydrostatic pressure of water under the higher ground."

This is not confined to low ground but is quite as often found in higher places where it is what we call springy.

Again, when frost comes out of the ground in the spring it thaws quite as much from the bottom as the top. If tile has been laid to carry off the water so released as fast as it thaws at the bottom, then the foundation of the road will be solid and will not be cut up by teams like untiled roads.

All the tiling I have known of on roads has been done by guess. That is, dig a ditch, put the tile in and guess they will work all right. This is all wrong. It is a wonder they have done so well.

Every township should own a transit or surveyors level. You can get one that will answer every purpose for twenty to thirty dollars.

Whenever you wish to lay a line of tile, stakes or pegs should be set every twenty-five to thirty feet apart. Then set the transit and mark on each stake the depth to the bottom of the ditch.

Do not attempt to set tile without a transit unless you have running water; then you can do fairly well but not as accurately as by stakes, as there are liable to be soft places where the water will not show.

The next important thing is the outlet. Unless you have a good one the whole is liable to be a failure, or at least a partial one. The outlet should be where the water can be carried off quickly and not back up in the tile.

To open into the bottom of an open ditch is not a good outlet. In the spring when the tile is of the most use an open ditch is usually filled with water and will back up in the tile rendering them nearly useless. If an open ditch has to be used you should arrange that the tile will open near the top, or run down the sides until you can get a proper outlet.

I would much rather have the tile laid with little fall and a good outlet than have a great deal of fall and a poor outlet. One inch fall to one hundred feet will answer; even less will do. If you can get more it certainly is better.

I have tile laid on my farm with only two-thirds of an inch fall to one hundred feet and they do good service. Where there is so little fall there should be larger tile and laid with great care.

There are some places that are level or even a little lower than the outlet. Such places can be drained if you have a good outlet by what we call making fall. That is, start the drain nearer the surface and lowering as you near the outlet.

I have one place on my farm that I wished to drain which was six inches lower than the ground at the outlet. I started the tile eighteen inches under the ground and at the outlet it was three feet deep. This gave sufficient fall so it works all right.

There should be a correct plat made of every piece of road tiled, giving the beginning and the end. This should be filed with the Town Clerk so that Road Commissioners in after years may know where tile has been laid. A pile of stone or some other permanent mark should be placed at the upper end to mark the starting point.

The outlet of all tile should be covered with heavy wire screen so that animals can not make nests in the tile and stop them up.

Do not think for a moment that what I have said of the necessity of putting wire screens over the ends, running the lines on a true level, laying the tile absolutely correct and getting good outlet, are overdrawn for they are not. They are absolutely necessary to accomplish the best results.

I would not use three inch tile. The cost between them and the four inch is so trifling and they are much more liable to get out of order. Three inch tile costs at the factory ten dollars per thousand; three and one-half inch, twelve dollars and fifty cents, and four inch sixteen dollars, less twenty per cent off for cash.

Digging ditches and laying tile usually cost about thirty cents per rod. The total cost should not exceed fifty cents per rod, or one hundred sixty dollars per mile for one string of four inch tile.

There is some sixty miles of public highways in the Township of Grafton; they raise some thirty-five hundred dollars each year for roads. Year after year for a long time they have hauled gravel on the roads, only to have it disappear as soon as a wet time came, when they piled on more gravel. Some three or four years ago they tried the experiment of using tile. It proved so satisfactory they are now expending from four to five hundred dollars each year for tiling. Had they commenced this fifteen years ago they would have had comparatively good roads, much better than at present and not spent any more money.

In the Township of Coral there are some sixty-two miles of public highways. I can not learn that a foot of tile has ever been laid in this town.

I have received many letters from this and other states and in every case where the writer has had experience he speaks strongly in favor of tiling.

I will read you extracts from a portion of them:

In a letter from Lee county, this State, the writer says: "We find some wet places where we can not make good road. We then tile it out on both sides and this is the last of the bad roads."

Another from Britt, Iowa, writes: "I have probably had as much experience in using tile on highways as anyone in this section. I have been a county commissioner for six years and was the first to use tile. Wherever we have used them we have perfect roads. The roads where tile are used are the first to dry off when wet. We usually tile on the sides but sometimes in the center."

Another from Mason City, Iowa, writes: "I have used some tile on public highways and the roads are always good after tile are laid."

Another from this State writes: "Tile has been used to a large extent to improve roads and have done much good. It is prudent to have the road drained of water before gravel is put on, for in case the roadbed is very wet the wagons and horses feet will sink the gravel out of sight, even if twelve inches thick, whereas on a properly graded and drained roadbed, a moderate amount of gravel will pack and make a good permanent road."

Another writing from Sycamore, this State, says: "In this township we have quite a number of short lines of tile along the highways, some on high ground where one side of the road is higher than the other and a number of low, flat roads, and in two or three instances where the descent is parallel with the road, in every instance it has had a wonderful effect in drying the roads long before those not tiled dry and then they do not get so bad as those not tiled. One section just north of Sycamore, adjacent to the Kishwaukee Creek, for years, in a muddy time, was a regular quagmire and almost impassable. A few years since two lines of tile were laid one on each side of the road and now it hardly gets bad at all. It is very flat with slight descent towards the creek. Numerous instances in the last two or three years only verify the benefit of tiling for highways."

Another from Clear Lake, Iowa, says: "We have found tiling very beneficial and I think it cheaper and better than grading."

Another from Swaledale, Iowa, writes: I did a job of tiling in the fall of 1897, some sixty rods through a very bad peat marsh. I laid one string of tile in the middle of the road. I had to run the tile for some distance on a neighbor's land to get an outlet. The tile was laid about four feet deep, then graded up two and one half feet more with side ditches about fifty feet apart. I have tiled drained highways in several places, in some places where it was very wet and with success in every case. With an experience of six years as road commissioner, I am very much in favor of tile drainage.

Another from Ft. Atkinson, Wis. (This is so good I give it entire.) "In reply to your questions in relation to tile drainage for highways, I will say

that I have learned from experience that on all wet land, and especially where the land is springy and the water rises from below, that tiling is a great benefit.

"I know of no way in which money can be expended more economically than by doing this kind of work. One line of tile under the middle of the road will be sufficient on a narrow road.

"When a new road is to be built, this is the first thing to do. Then earth from the ditches can be thrown on and well packed, then gravel or other good road material put on.

"If the road has already been built and graded up high and well covered, it might be best to put in two lines of tile, one on each side. This I have done when it was thought best, but one line in the middle proved the best. Of course it is understood there must surely be a good outlet to the drain so that water will not back.

"The tile should be laid from three to four feet deep and with such an even grade that there will be no depressions where water will stand. A fall of one inch to one hundred feet will do if no more can be had, that is, if they are laid perfectly.

"Three-inch tile will be large enough if the line to the outlet is short, say not more than eighty rods, but if longer, should be larger. Three-inch tile cost ten dollars per thousand feet; that makes sixteen cents a rod, and the cost of digging is about thirty cents a rod. I have had a great deal put in for that. The cost of tile and work ought not to exceed in any case more than fifty cents a rod.

"When the frost comes out in the spring the ground thaws from the bottom as well as the top. The tile being laid at about the lowest line of frost, as fast as the ground thaws at the bottom, the surplus water is taken off, so that as soon as the ground is all thawed the water is drained out and the road is firm and solid."

Another wrote me that an instance of the benefit of tile drainage came to his notice years ago in eastern France, where all the highways were built of macadam, under the supervision of the war department. There was a long stretch through a somewhat hilly country, where there were many springs of water gushing forth at a lower level. It was supposed there were many hidden springs when such subterranean water courses came so close to the surface, which was borne out by the fact that in open winter or in early spring there would be spots that became, in the language of the country, "bottomless." In other words, the surface apparently dry and perfectly safe for light loads, but if traveled much or used for heavy loads, the macadam would sink.

In 1871, when Germany and France waged war, the former being victors, and moving large bodies of troops and transports over this road, soon cut it up so it became impassable.

The German military engineer ordered a ditch cut five feet deep through the center of this road, then laid a large tile with cross sections for outlets.

Many people scoffed at this idea, but to their surprise as soon as the work was completed the army wagons went right on and had no further trouble and there has not been since, during a period of nearly thirty years. This tile was laid for a distance of four miles.

Now let us come nearer home and describe roads that many of you know about.

Take the road from Kishwaukee into Huntley from the west. In wet time this road was almost impassable. They had hauled gravel on it year after year and every spring when the frost came out of the ground the gravel would disappear. Three years ago the road commissioners laid a string of tile on the upper side as near the road as they could. They then put on a good coat of gravel and from that day to this it has been a good road.

Again, take the road from what is known as Evans Corners to the northwest. Here was a piece of road that no pen can describe. Well, if you want to know anything about it ask those who had hauled milk over it every day.

Ask them if they had to put on four horses on a milk wagon to haul eight cans and then were liable to get the whole down in the mire. Two years ago they put in a row of tile on each side of the roadbed, then a good coat of gravel; there is no more trouble with that road.

I wrote to one of the men who has hauled milk over both pieces of this road for years. I will read you his answer: "In regard to roads, I have watched them very thoroughly between our place and Huntley, and where we used to have the worst roads, they are now the best. My opinion of tiling roads is that roads tiled upon both sides of the roadbed and no gravel, is better than gravel and no tile, but by tiling and then graveling makes a very successful road."

I wrote to one of the road commissioners for the town of Grafton, who was instrumental in having these two pieces of road tiled. Hear what he has to say: "I have acted as road commissioner for twelve years. For the past three years we have expended from four to six hundred dollars each year putting tile in the highways. In every case the roads have been very much benefited. We do not think any money laid out on roads does as much good in proportion to the amount expended as that used in tiling. Had we commenced fifteen years ago and expended the same amount we now do for tile, and not used any more on roads generally than we now do, we should now have comparatively good roads."

There is a road in the Township of Marengo, running between the Belden and George Prengle farms, for a distance of sixty to eighty rods. In former days this was very wet and what might be called a springy slough. In an early day it was corduroyed; later a ditch was opened on the west side, but this did not seem to help the road much. In the spring the frost would heave the logs so that they had to be taken out and the holes were filled with hard-head stones at great expense.

When Mr. Charles Williams lived on the Bacon farm he frequently complained to the road commissioners, asking them to put in tile, to which they finally agreed, provided the neighbors would contribute twenty-five dollars, which they did. The tile was laid on the east side of the track at considerable depth, producing at once a nice stream of water at its outlet. The tiling had the desired effect, drying the roadbed to such an extent that a coat of gravel has lasted for years, giving a good road at all times.

In conclusion I would like to refer again to the letter of James M. Marsh, who has hauled milk over the road to Huntley for years. It seems to me you could not put more good sound sense into the same number of words. Let me repeat in substance what he says:

"Where we had the worst roads now we have the best.

"Roads tiled without gravel are better than roads graveled without tile.

"First tile, then gravel, makes the ideal road."

GOOD ROADS.

By W. L. Frisbie at the Adams County Institute.

Mr. President, Fellow Farmers and Friends:—I am pleased to be able to be with you and take part in your Institute. I believe in the Institute and the work it is accomplishing. Old lines in farming as in business are passing away; new conditions, smaller interest on money loaned, smaller margins of profit, demand a readjustment, a cheapening of the cost of production and of marketing.

The education that perfectly fitted the professional man even twenty years ago will not do now, the bounds of a liberal education are immensely broadened. It is an era of expansion, and we as farmers must move forward with the age. Everywhere the railroads are lowering their grades that they may haul larger and larger loads, and yet primarily all the vast tonnage they handle is hauled over very primitive roads. The days of the saddle bags are gone, and the day of the automobile is more than in the dawning. I have been asked to read a paper I delivered before the Winnebago County Institute

two years ago. It relates principally to my own town of Rockford which has the honor to have more miles of stone roads than any other town in the State in a distinctively farming community. The conditions of the soil are largely the same as around Mendon, loam with clay subsoil, except that there is no seepy ground to contend with, some creeks are the only places where tiling is necessary. I do not wish to be understood as making unfair comparisons or of telling others what to do, but simply to tell what we have accomplished unaided in the last 23 years, hoping that the results of our efforts may stimulate others to like effort.

Your roads around Mendon need as the first preparation for permanent hard roads a thorough tiling with 4 inch tile laid with a slope of at least one inch in the 100 feet, with a proper outlet. No stone will last on a roadbed inclined to be seepy or springy, as I remember is the condition here in many places, and gravel put on such a road is of little good. One 4 inch tile properly laid in the center of such roads will pay big interest even if nothing is put on top of it. This is the universal verdict in adjoining sections to my home both in Wisconsin and Illinois where somewhat similar conditions exist.

From earliest historic time, since man first made record of inhabiting this earth, this subject has received his more or less earnest attention. In the more barbarous and savage times, and indeed in many places at the present, the track of game through the jungle, as they passed from one watering or feeding ground to another, supplemented by the tree felled by chance or design across the smaller water courses, and a rude raft for the larger, constituted their only roads, on land, at the least possible outlay of labor. Our own native races, a shade higher in the scale, between any two points where there was any considerable passing, always by the route where the soundest footing, the easiest grades and the most direct line lay, was found their well-worn trail; indeed so good a natural surveyor was he that many of the older roads in use today are in the exact place of these old Indian trails. The Cliff Dwellers of the southwestern portion of our country were higher in the scale of civilization and higher in grade as road builders. They had the trail of the Indian and also the path quarried with infinite patience and an incredible amount of labor out of the precipitous face of the rock, up by at least passable grades to their houses perched like swallows' nests in the fissures and caves. Farther south in Mexico and Central America, was a still more advanced people. From city to city, from ocean inland, wherever their needs called for frequent passage and carrying of burdens, straight from one point to another, filling gullies, cutting along the sides of mountains, or going boldly over them, accomplishing with crude and imperfect implements works of such a stupendous nature as to be even in this age a marvel to engineers. What wonder that the Spaniards saw them with amaze, and the few vestiges still left of them are among the most striking object lessons as to what may be accomplished in road building by persistent, well-directed efforts, even under the most adverse conditions. The Grecians are supposed to be the first people to build graded roadways as distinct from foot paths. These were unpaved and led mostly to their temples.

The Romans came next, and never have been and probably never will be equaled either in the quality of their roads or their perfect indifference to all natural obstacles. All of Europe and part of Asia they covered with a network of roads that commenced at least 320 years B. C., and have been ever since used for the commerce of a world, and after all these centuries are in many places in perfect condition. Where such lasting results were achieved we may perhaps learn something, at least the value of thorough work, from a brief review of their methods of overseeing and construction. To no one thing did Rome owe more for its greatness, its culture, its advancement in wealth, power or conquest than to the perfect system of roads. Every city, every point of danger or of profit, every additional province conquered were all connected by the most elaborate system of roads ever attempted by man, and the most outlying garrison was connected with the capital by roads over which immense loads could be transported with the utmost dispatch and the mails be delivered by swift riders with a precision and celerity that gave Rome her dominion over the world not less than her mailed legions.

The principal roads of commerce were about fifteen feet wide, though others built more for pleasure were often of less width, the most noted of which, running to the temple of Jupiter Latio on the summit of Alban Mount, was eight feet wide and so well built was it as to remain to this date in nearly perfect condition after more than 2,000 years of use. The method of construction varied somewhat and use made largely of the material of the district, but in the main conformed to one model. A trench was first dug on each side of the road until some solid basis was struck, the earth between removed and the foundation layer of stones, as large as could be grasped and handled by one hand, carefully placed over the entire bottom. Above this a nine-inch layer of broken stone, cemented by lime and thoroughly rammed down; above this a six-inch layer often of broken brick, pottery, etc., mixed with cement, leveled to the required grade and rammed solid was placed, and above this blocks of the hardest stone obtainable, dressed to even thickness and jointed very closely, but of uneven size and shape were laid. So closely were these fitted and so thoroughly wedged as to make practically a solid stone covering for the whole, slightly rounded in the center for drainage of rainfall.

On each side were footpaths, usually of one-half the width of the middle road, not paved but made of packed gravel, while at intervals all along were placed stone seats, also stone horse blocks. Mile stones were set up having the distance (always from Rome) chiseled on them, while at the gates of Rome were tablets giving the objective point and length of each road. These roads were made on nearly air lines, cutting through mountains, filling valleys, crossing streams on arched bridges, still in use through all the centuries. Did a marsh or other impediment to a solid foundation occur, piles were driven over the entire bottom and the road constructed on top of them. Along the sides of the mountains and on each side of the fills massive walls were laid, a stone balustrade, topped off by immense coping stones, gave security and stability; arched waterways beneath gave passage to the rainfall and mountain streams.

This modified somewhat by different conditions and surroundings was the method of construction of the thousands of miles of road that Rome built. The expense was borne by the Government and so great was considered the honor of building them that the principal men of the nation eagerly sought the honor of superintending them, and instead of looking for a "rake off," often expended large sums of their private funds in their construction. Under the Empire the Emperor sometimes assumed the office himself as an added honor. Subsequently, regular commissioners were appointed to give their time more fully to the task and the most noted contractors were proud to be associated in the work and thought the honor sufficient to be engraved on their tombs. In the provinces the cost was borne by the provincial taxes, soldiers were sometimes employed and in some cases toll was collected.

The cost, of course, varied, some costing \$6000 per mile, which measured by the pay of labor now would probably be 9 times as much, or \$54,000. After the fall of the Empire the roads appear to have received little attention and excepting what was already built, were veritable wallows. Such was the condition even in England, until about the beginning of the 19th century, when a determined effort was begun for their betterment and two men, Messrs. Telford and Macadam, by their energy and scientific road work, revolutionized the road making not only in England, but the world. Their methods, wholly, in part, or combined, enter into the building of all hard roads at the present time. We will examine briefly their methods. 1st Both insisted on the most thorough drainage of the roadbed, with waterways at each side to carry off quickly all surface water, the roadbed carefully graded and compacted either by the roller or by use; thus far both agree. Macadam would place on this an even covering of small broken stone, as evenly broken as possible, and from 10 to 12 inches deep crowing in the middle for drainage and either solidified by heavy rolling or placed on one-third part at a time, allowing the travel to pack each application, the last one carefully raked and leveled and the soil graded to the edges and sodded.

Telford, while equally insisting on the thorough draining and preparation of the road bed, places first a course of flat stones laid edgewise across the road bed to the depth of about seven inches, this covered by six inches of finely broken stone thoroughly rolled and left crowning in the center, on this one and one-half inches of good gravel well rolled, the sides graded up to with earth. These two plans modified or combined to suit different localities have been the models for all the road improvement in not only Europe but America. Some of the roads of England, when the drainage of the wet clay was too difficult, have a first class course of cement concrete to the depth of ten inches with the rubbel on top. This is so expensive as to be beyond the reach of most places. Gravel, broken brick and specially burned clay have been substituted for the stone with more or less success.

The agitation for permanent roads in this section (Rockford) dates from a very recent period, in fact about all has been accomplished during the last twenty years. The figures I shall give are obtained from Mr. T. J. Levings, for eighteen years one of the commissioners of the town of Rockford and acknowledged to be one of the most skillful of road builders. If the figures seem small according to the work accomplished they are, nevertheless true, and are due to the experience of years and a careful system. The town of Rockford has, outside the city, sixty-seven and one-half miles of road; seven and one-half on the east side of the river is all refinished gravel road. Thirty five miles in the southwest section, over which Mr. Levings has immediate supervision, and twenty-five miles in the northwest section. Twenty-five years ago not one rod of these roads were solid and at times they were simply impassable. I remember being stalled with 900 pounds of feed with a team weighing 3,200 on the same road where they would now draw 8,000 pounds. Of these sections the smallest now has the best of gravel roads all over the whole of it, hills all graded down, bridges in good shape, and in the northwest section of about twenty-five miles about twenty two are good stone roads and some very fine new stone bridges that will last for years; the southwest section of thirty-five miles has twenty-seven miles of as fine stone road as can be found, from twenty feet wide on the main roads to twelve feet on some of the cross roads, five miles of gravel road and about three miles of dirt roads. Some heavy cutting and filling has been done, many of the smaller bridges covered with flagging and the larger ones stone arched. In addition the town has, with no help from the county, built an iron bridge across Rock river. It is but fair to state that this has not all come out of the taxes. Liberal donations of money, labor and material, and perhaps of more worth, a hearty co-operation by the people at large, has not only expedited the work, but encouraged the commissioners.

I will try to give in as clear a manner as possible the method of building that experience has proven to be the best and cheapest. The road bed is first graded with the common wheel grader to a moderate pitch in the center, taking pains to get it as near a perfect grade as possible; it is then compacted by thorough rolling, and where no roller is used it ought to stand for a time and let it pack by use. Lay out the track the desired width by stakes on each side and haul on the stone. Here is where the best man on the job should be stationed; the dumping, placing at an even depth of the rubble as hauled requires judgment and care, breaking the larger stones, but always leaving the bottom stones of moderate size. Stones larger than six inches square should be broken. The nearer of equal size the bottom stones the better the road. The tools needed will be a light dirt pick and about a five pound double faced hammer, similar to a striking hammer used for drilling, breaking the top three inches as fine as you please, with a similar hammer, only smaller, about two pounds weight with a face of one or one and one-fourth inches; the handles of these should be five feet long. The rubble should never be less than twelve inches deep on any road.

Now plow two furrows on each side and grade up against the stone, both to hold the stone in place and to make an easy grade on and off the road. Roll thoroughly after a rain if possible, filling any inequalities that show with well broken stone. Place one and one-half inches of gravel, not sand, over the whole top. If the gravel contains a little clay the better. Roll well again and you have a road that will be a pleasure to ride on for years to come.

Another way on a narrow track is to drive the team crossways of the road, dump and with pick and old-fashioned potato hook pull all the larger stones out, placing them as evenly as possible, drive the next load on top of these larger ones, draw the larger ones ahead leaving the smaller ones to form the top of the road. This will save some breaking. Roll, cover with gravel, not forgetting to grade the edges. All material should be uniform in quality; a load of sound stone and a load of poor stuff placed next will surely make a hole in the road and be very difficult to mend. If you must use poor material, mix it with the good, but better to put the poor on the dump and use none but the best. The cost of such roads we have figured on the basis of a 14-foot road-bed of stone, the haul to be two miles, to be 14 inches deep of stone in the center, 10 inches on the outside. No cuts or fills, but the grade to conform to the surface grade. No pay for material except gravel, all stone used being donated with us.

One rod of such road will require—

4 loads stone 1½ yards each, hauling.....	\$2 00
1 load gravel 1½ yards, 10c, hauling 50c.....	60
Breaking on road and help loading, 15c a yard.....	1 08
Quarrying 6 yards, powder and rep. tools.....	78
Cost per rod.....	\$4 41
Multiplied by 320 gives.....	\$1,411 20
Grading one mile.....	18 00
Rolling three times.....	18 00
Total cost.....	\$1,447 20

Where the rubble is already out, as has been the case with part of our work, there is a saving of about \$288 per mile, making such roads cost \$1,159.20 as the total cost of one mile of road 14 feet wide and of an average thickness of 12 inches. A seven foot track would cost a little more than one-half as much as the 14 feet. We built the tracks narrower at first, so that more people could be benefited as soon as possible, but all roads repaired or new ones built are being put in no less than 14 feet, and the older ones on the main roads 18 to 20 feet.

It is a very great mistake to use less than 12 inches of stone, as a less bed is not strong enough to hold up a load. It breaks up, the water gets in, and the labor done is about worthless. A poorly constructed, worn out stone road is an abomination, fit to use in neither wet nor dry times. Honest, thorough work that will last is the only work that pays in the end.

We have experimented with gravel roads, but while we find them a very great improvement over dirt and part of the time exceedingly good, in very open wet weather they cut through and will not carry heavy loads. So inferior to well made stone roads are they that we are substituting stone for those already made as fast as possible. A gravel road can be made much cheaper, and by putting on nine inches allowing the traffic to wear this down then applying another nine inches, and as required a third nine inches, a very good road will in time be made; but it will never have the solidity, smoothness nor wearing qualities that a well made stone road will have from the day it is completed.

Our town has no crusher. This is not on account of the cost of one, but because experience teaches us that with our stone it does not pay to use one. We have hired a crusher, carefully counted the cost, put in sections of road with crushed stone alternating with like sections of hand broken, and have satisfied ourselves that with our material (buff limestone) a better road at a less expense can be made with hand breaking. With a harder rock like granite or quartz the reverse undoubtedly would prove true, but then only the top should be crushed.

The city of Rockford owns a very perfect crushing plant, elevator, rotary screen and dump bins. They have experimented with all methods of using stone for roads and now make all their rubble streets with a roughly hand-broken bottom, thoroughly rolled by a heavy steam roller, covered by two

grades of crushed rubble; about one-third of the stone used being crushed. In our experience a 5 or 6 ton roller, that can be handled by 6 or 8 horses, is a very necessary tool to have and could be owned and used by two or more adjoining towns. We work three or more gangs of men during the whole summer and own two rollers. We have used a steam roller, but find the only advantage that being heavier, they do the work with less going over, but give no more satisfactory results. Let no one despise a small beginning. The first year's work on our roads only builded some 20 rods, and the tools were of the most primitive description—old axes for breaking, potato hooks to pull the stone around with, and of all the wrangling, cussing and general opposition by some of the users of the road, who thought that what had been good enough for them for years ought to satisfy some of us younger men. No community could more than equal.

The next year more was built and some of those most opposed at first were the largest donors of volunteer work. If you want better roads build them. Our section of the State is fortunate in the abundance and nearness of road material. In the central and southern portions, where, from the more open winters the need of hard roads is greater even than with us. There is in many places an absolute absence of either stone or gravel. Various methods have been resorted to, broken bricks, and a clay specially burned for the purpose, have been used with only partial success. The town of Monmouth is now trying an experiment that is being watched with interest. They are absolutely lacking in all material, except a fine quality of clay, and have resolved to use that to the best advantage.

The road-bed is carefully graded in the spring and allowed to compact with use for two or three months, with an occasional scraping to keep it even and assist in getting it solid, then 2x6 planks, held by oak stakes driven every 18 inches, are set on edge seven feet apart; a 5 inch layer of sand is spread between them, and on this is laid a course of No. 1 paving brick, set edgewise, two feet of broken stone are placed outside the planks and the dirt then graded up to the stone, making an 11-foot hard road with a dirt track on each side. The cost is said to be 90 cents per lineal foot, about \$1,650 per mile. The town has built several miles of such road and intend to keep adding to it.

Some of you probably know more of this than I do. These figures seem very large, and for the whole State would represent an enormous outlay for even the cheapest kind of hard roads. I have seen the statement, with the figures to apparently back them, that large as the outlay would be, the sums raised for road purposes since the settlement of the country and practically wasted, would, if properly expended, have put a good, sound road-bed on every laid out road in the State.

Ohio has the reputation of having the best roads of any western state, under conditions of climate and soil very similar to our own and with no hardship in the matter of taxes. Wisconsin has during the last few years added greatly to the value of her farm lands by making strenuous efforts for good roads. The growth of the dairying interest all through northern Illinois, where the product must be cared for every day of the year, is forming public opinion and stimulating effort as perhaps no other one thing would do, and the next 10 years will see many miles of good roads added to those we already have. The advantages of hard roads need not be dwelt on; every one realizes the immense saving in the marketing of crops, the hauling of milk and the wear on teams and vehicles, aside from the saving of time. Good roads are the first requisite of the government, preliminary to even examining a route for free rural mail delivery.

There are other and no less important advantages than the mere monetary one, in neighborhood good roads. Farmers, from the nature of their work and the isolation of their homes, are not so social as their brothers of the town. In the summer, the press of work leaves no time; and during the winter or a wet spell, the normal condition of a dirt road makes them virtual prisoners so far as any social intercourse is concerned, and is at the foundation of the distaste for farm life and one of the reasons why so many of the young people leave the farm. Young people and farmers' wives need, are entitled to, and require for their health of mind and body some relief from the

sameness of their isolated position. The men can wallow through the mud to the post office or trading place and secure the necessary supplies, where they meet neighbors and friends; but the young people and women have no such relief and grow discontented. Sunshine in our lives and a change of our thoughts are just as essential to our own well being as they are to the successful growing of any of our crops. Good roads, however desirable or profitable, will not build themselves. There must be hearty coöperation and support by the people. The road tax in most towns is small, and if relied on to buy all material and do all the work the advance will be slow. Make a donation party. Tell your commissioner to have a roadbed ready—men to help shovel and break. Donate the hauling as well as the material. Right here let me give you who intend trying the subscription a little advice born of personal experience. Have your paper in legal form, for the consideration of the added value to our places, etc., promising to give so many days work on or before such a date or in lieu thereof \$3 a day for each day promised, and then hold every mother's son of them to it. When you go on the roads see who can haul the largest loads and the most of them, not how little you can get out by doing. Help your commissioners by your interest and commendation. If they are no good, vote them out; don't growl around all the year and then stay away from the polls; don't put some old fellow in because he is good for nothing else. The remuneration of \$1.50 a day is ridiculously small for the kind of man required, but with hearty support and appreciation good men will take it for the sake of the results. Start your work at the objective center and build out each year until the whole is completed. There has been too much make-shift work on the bridges; it is economy to put them in large enough and the stone work good enough to last. There is no reason why we should not build bridge piers and arches to last as long as the Romans did. There are too many plank culverts; they should be of stone or concrete, arched or covered with stone flagging. Where the volume of water is very small tile well backed and protected by stone does well. Two coverings of plank last with us seven years and cost about the same as flagging that will last for a hundred. Let each township put in each year what it can of permanent work in bridges and well made, well drained hard roads and many years will not elapse before there will be a sound road on every highway in the country. Wait for State aid or for some one else to build them for you and your funeral may be like one I saw in the central part of the State some years since—four horses on the hearse and the mourners on horseback.

HORSE DEPARTMENT.

THE HORSE.

Read at Morgan County Institute by John Landrigan, Albion.

It has been announced that I would attend your Institute for the purpose of addressing you on the horse. I must admit that this is a congenial subject and a favorite study with me. Indeed, were I to plead guilty of making a study of any of the various breeds of domestic animals, the horse, in some one of his special types, would be the breed for which I have the highest appreciation, while all of the tribes of domestic animals are almost a necessity to the comfort and convenience of man. There is no breed of the animal creation which in their respective uses contribute so much to the absolute necessities and comforts as the noblest Roman of them all, the horse.

In the peaceful occupation of the tiller of the soil he is a necessity, in plowing, sowing, reaping or mowing, the noble horse is the recognized power. In the modern science of war, the horse has become indispensable; in the great and growing commercial centers of this continent for the purposes of traffic and pleasure, the horse in the grandness of his proportions and in his unequalled strength and fleetness, is a recognized and indispensable necessity. Hence the question of the hour with farmers, who are mainly the breeders in this country, should be how to breed and what to breed. Horses are, or should be, bred for one or two purposes. First, for use; second, for profit. And right here I will undertake to say that the average farmer or breeder of horses can more readily succeed in breeding successfully for the former than the latter purpose, especially in view of the fact that the horses of Illinois are of no fixed type. They are, to a certain extent, creatures of chance so far as their general make-up is concerned, hence the great difficulty the farmer meets when he undertakes to breed a particular type of horse for his own use from sires and dams of no particular type or pure breed. We lack system and method in breeding; this must be changed. A continued and permanent success as breeders will crown our efforts should we breed with a specific object in view. The sooner we recognize this fact, that we have failed to grasp the true theory and practice of successful and intelligent breeding the better for future results. Great Britain, Germany, France and Spain have, respectively, accomplished much in the line of intelligent breeding, and we should not be slow to profit from the results secured by the intelligent breeders of those countries. To a great extent in those countries the breeding of domestic animals has resulted in producing distinct and fixed types. Witness the plump model form of the beautiful Southdown sheep with his russet face and legs. The grand Cotswold, with his long silken fleece and magnificent proportions. The more diminutive Merino of Spain, with his numerous wrinkles and fleece of unapproachable texture. The Shorthorns with their grand proportions and unsurpassed model forms, with an aptitude not only to take on flesh rapidly, but to distribute it on their carcass where it will prove of the greatest value and excellence to both the breeder and consumer. Again I would call your attention to the symmetrical, silken coated thoroughbred horse whose speed and courage are unequalled. The Clydesdales of Scotland, which are the peers of any tribe for the special purpose bred for. The Shire horses which are the pride of England and the glory of the brewery and manufacturing kings. France has succeeded in producing one of the highest types of draft horses, the Norman, or Percheron, the individual char-

acteristics of which are so thoroughly fixed in the breed as to be transmitted with almost unfailling uniformity. I might mention the Hereford white faces and the black polled breeds of Scotland, which are today the peers of the Shorthorn for public favor, and considered by many good judges as the equals of any of the beef breeds.

The law of nature has not only to be respected, but intelligently observed and followed, namely, "like begets like." This should be the breeder's keynote, like begets like, or the likeness of some ancestor. Therefore, first determine what kind of horse you want, then secure dams which possess the desired qualities and breed them to sires possessing like qualities; in this manner we can and will establish families of fixed types. If the object sought is a draft horse, secure this sort of a foundation and build upon it; keep within the family, making judicious individual selections and success will reward your efforts. Should you desire a roadster, begin with this sort of foundation, continue to breed in this line and success will be the result.

Avoid extremes in breeding. The thoroughbred race horse should not be bred to the draft horse, for the produce will most likely be neither a good draft horse nor a good race horse; in many cases the result would prove to be an animal with the hot temper of the race horse connected with the sluggish action of the draft family; this mix would not be a good one for reasons obvious to all. Horses can be properly classed as follows, namely: Thoroughbreds, trotting horses, coachers, saddlers and hackneys, and should we say, farm horses or horses of all work.

The Creator has blessed man with an intellect which has enabled him to not only improve breeds of horses, but to create different types of this noble breed of animals. Witness the diminutive Shetland, the ponderous draft horse and the many intermediate types, such as the thoroughbred, the American roadster or trotter, the coach horse of elegant proportions, majestic form and lofty style, likewise the Kentucky saddler with his many gaits. While my purpose is not to encourage farmers to engage in creating new types or varieties of the breed, I would call their attention to what has been done in this direction, so that they will bear in mind that the improvement of the breed handled by them is always a probability which should not be lost sight of in breeding.

What sort of horses will I breed? This matter should be determined, all other things being equal, by your choice of variety.

While many excellent judges of horses maintain that there is no horse of all work, nor can such a breed be produced, and while I am free to admit that no one animal can possibly possess all of these qualities in combination, so that he may be the equal of the fleetest trotter on the track and the peer of the most exquisite saddler and equal to the most powerful draft horse at a dead pull, nevertheless a combination of all of the best qualities can practically be secured in one animal or breed of animals. That is to say, a horse with weight and power sufficient to pull his share of the binder and to pull his share of sixty bushels of wheat to market, and possessing such breeding and action as would enable him to carry his owner easily in the saddle and when before the buggy be able to move along from six to eight miles per hour in an even trot, would be no poor specimen of a farmer's horse, or horse of all work; and there is a great demand both in the cities and on the farms for just such an animal as I refer to here.

How to select breeding stock—include the following: Select a sire, not for a handsome head or grand style, but because he is good as a whole and has the special excellence you want.

In selecting sires or dams to produce from, examine for bad points, not for good ones, for all horses have good points. If a mare's eyes are poor and she has poor shelly feet, don't breed her. If a stallion has a light bone, cut away below the knees and hocks, pass him by. If a stallion has a narrow head—cut up in the flank, with standing rib, far from hip, don't patronize him, though you may own him.

Short back means short body—rather say a good body and back. Short-bodied sires and dams are small breeders, as a rule. Hence I would select the chunk to wear out—and the roomy one for breeders.

A sire should be good as a whole, and should have the special excellence you want. He should have the power to transmit his special and general excellences. These suggestions will apply to all breeds.

I would not advise the farmers of Illinois to devote much time to the breeding and rearing of saddle horses. The demand of this sort is limited in comparison to the demand for roadsters, coachers or draft horses. The saddle horse must be thoroughly broken and admirably gaited to go the different paces. For gentlemen in cities are very reluctant indeed to purchasing a promising prospect for a saddler and undertake to develop him. Training a Kentucky saddle horse as he should be taught is a fine art, perfectly understood by but few persons, and those persons devote almost their entire time to the business. A perfectly trained Kentucky saddle horse with rider to correspond is a study well worth the consideration of any gentleman who admires a beautiful horse and a graceful rider. The handsome animal, whose every motion is replete with elasticity and grace, now in the flat walk, again perceptibly gliding into the running walk or trot, when by a slight motion of the hand of the rider, the gait is suddenly changed to the singlefoot. Again by a touch upon the neck of the graceful animal we have the canter in its easiest form. A pressure of the knee is sufficient to turn the animal, with almost human intelligence, either to the right or the left, as required by the skillful rider. At a word the sleek coated beauty comes to a halt with each foot in proper position, neck grandly arched and head elegantly carried, nostrils distended, eyes fairly blazing with ambition, but at perfect repose, with bridle lying loosely on the neck. Such is the perfect and thoroughly educated saddler, when manipulated by the hands of a master, and only an expert can develop the highest and most perfect qualities of a perfect saddler. These are some of the reasons why I would not advise our farmers to engage in the breeding and rearing of saddle horses.

To be more specific will say that my ideal horse for the purpose herein named should be, say 14 $\frac{3}{4}$ to 16 $\frac{1}{4}$ hands high, weigh from 1,300 to 1,250 pounds, of good color, in disposition kind but courageous, broad between the eyes, which should be of the best, good length of neck, the latter attached to a clean cut bony head, strong shoulders running well back, with a good middle piece with well sprung ribs, good broad loin, ribbed right up to the hips, the latter long, smooth and of good width, tail set on high and carried well, grand large stifles and gaskins, large hocks and knees, broad and clean cut, round ankles, moderately long pasterns, good sound feet of generous proportions combined with fine style and good action and to be handsome. Thus you have my idea of what should be the general utility horse of the near future, and we can not produce too many of them, for this is the sort that almost everybody wants. To breed him secure mares possessing these qualities, then breed them to sires of like kind. The second or third generation bred in this way will possess these qualities to a great extent and transmit them with much uniformity.

In my judgment the American roadster or trotting bred families afford the surest and most desirable opportunity to secure the type of horses herein described. In view of this conclusion it will be in order to investigate the history, including performance and salable qualities of this breed of horses. During the earliest period of our country's history the speedy roadster was unknown. Good roads did not exist, the saddle nag was the prevailing type to be found. With better roads and the introduction of light vehicles came a demand for the trotting gaited roadsters. About the year 1840 were introduced light vehicles with springs, into the older states, and with their advent we hear of the speedy roadster. However, trials of speed in the trot and pace in those days occurred under the saddle, usually.

In 1840 Dutchean trotted under the saddle one mile in 2:28. In 1845 Lady Suffolk trotted, same way of going, in 2:29; Moscow trotting in same race one heat in 2:30. In 1849 Pelham (converted pacer) trotted in 2:28; in 1853 Highland Maid (converted pacer) trotted in 2:27; same year Tacony and Flora Temple trotted in 2:27. At the close of the year 1855 nine others had dropped into the magic circle of 2:30 or better. Thus it will be seen that as late as January, 1856, only fifteen horses made records as fast as 2:30. It

will be seen what progress has been made in breeding the fast roadster when we remember that during the last few years 2,500 or more horses have made records in 2:30 or better in a single season.

In the forties Abdallah I sired three trotters with records of 2:27 to 2:30; whereas Electioneer, who recently died, the property of Senator Stanford, of California, sired over 150 with records of 2:08½ to 2:30; Nutwood nearly as many; Red Wilkes and Onward being respectively the sires of more than 100 with 30 or better records; the latter sires being sons of the great George Wilkes, which family transmits speed and stamina with a high degree of uniformity, combined with substance and ample size. The leading prominent families of roadsters are the descendants of Mambrino Chief, to-wit: Mambrino Patchen, Clark Chief, and Woodward Chief tribes and the Hambletonians—Hambletonian 10 being the greatest progenitor of superb roadsters and speedy trotters the world ever saw. Electioneer, the incomparable, Robert McGregor, Red Wilkes, Onward, Alcantara, Aleyone and Nutwood are admittedly the most successful descendants of "Old Hambletonian," and by the way I will mention here that each of these great sires, except two, are descendants of Mambrino Chief in the female line, thus combining our two greatest roadster families and producers of our speediest and gamest harness race horses.

The recent panic has diminished the value of horses as well as the value of farm products generally. History is only repeating itself, for it will be remembered that the panic of 1873 resulted in similarly low prices prevailing for a period of several years.

I will venture that within a period of the next three years that the demand for horses will be fairly good and at remunerative prices, too; even at this dark time that dark cloud is being fringed with the proverbially "silver lining," for the demand for good horses of all breeds is improving, especially the American roadster of size, combined with good manners and fine form. The Chicago and New York markets today furnish gratifying evidence of an improved market, especially for the roadster bred horse. Not only is this sort eagerly sought for by shrewd American dealers, but likewise by the agents of foreign countries. Purchasers from Great Britain, France, Italy, Germany, Austria and Russia are active competitors for our roadsters in all of our leading markets. Indeed during the past year the exportation of horses to those countries has been not only large, but a gratifying one to horse breeders—over 40,000.

The average buyer of horses today is more critical in his selection than in the past. He is looking for more quality in the way of size, beauty, good action and good manners. The day has passed, never to return perhaps, when undersized, or half broken, or thin fleshed horses, will find a ready purchaser. Therefore farmers and other breeders will have to conform to the requirements of the market. In order to be in the swim we should breed the sort of horses which there is a demand for. Well bred sires of the proper types are within the reach of all farmers now, that is in the line of service fee, the latter being very low.

I know that you will pardon me in calling your attention to the practice most in vogue. Too many of our farmers in securing the services of sires are governed more by the low price of fee than the merit of sire, provided a sire possesses fair size and is not totally blind, if his service fee is very low. Although the sire may be a brute the normal fee secures the patronage to the neglect of sires of superior breeding and individual excellence.

It is true that our cheap plugs consume as much feed, require as much stable room to shelter them, give us as much labor to train them to work, and when we dispose of them in the full maturity of years they bring us less price than well bred weanlings or yearlings. But we have the gratification of knowing that we saved a few dollars in the service fee of a cheap sire. The ruinous method should be abandoned at once and forever, by encouraging the introduction of well bred sires of the different breeds and patronizing them liberally.

Were any persons to advise us to grow varieties of wheat worth 25 to 50 per cent less in the market than the present superior sorts, because seed of the poorer varieties could be purchased for a nominal price, would we purchase this sort and grow it? If not, why not?

Remember that it costs as much to pasture, stable and feed and market a scrub as it does a well bred saleable fellow; no profit is secured from the former, whereas both pleasure and profit is secured in the raising of the sort that every person wants.

Colts should be kept growing all the time. The starving process never made a great horse; sometimes horses have grown to greatness in spite of the starving process. By liberal and generous keeping a three year old will almost assume the proportions of a four year old. Generous feed increases the size and symmetry, while the opposite, or starving method, destroys the symmetry and elegance, and in many cases reduces the natural size of the animal when matured. Therefore, I will again repeat, feed your colts and young horses generously, provide suitable stable to shelter them in inclement weather. The south side of a straw stack or wind break is a poor substitute for comfortable stable.

The law of kindness should always be observed in handling colts or horses. An unkind master who abuses, punishes and scolds his horses will almost invariably be the owner of horses with bad dispositions, and devoid of confidence in man.

You can't begin to handle a colt too young. Handle feet and legs and teach to lead and do all in a box stall. First halter break; put a weanling in a 12x14 box stall; take a buggy whip and teach him to lead in both directions. Never try to pull him forward, but sideways. Touch him with the whip without hurting him and teach him to follow and always teach him to turn his head to you. Next handle the feet and teach to be shod; carry the foot straight back perfectly or sidewise as needed by a blacksmith. Take a headstall of a riding bridle with no lines and let him wear it for a while. Next let him wear a harness a few hours for two or three days and then begin driving him. Put the lines through the shaft rings, not the harness terrets, drive a short time and never stop or turn when he wants to; teach him to go by home without opposition at first. Generally I break them in the fall when they are yearlings past. As you approach home pull in a different direction and teach them to stop when you say whoa. Next hitch to a two wheel vehicle. I don't like the long shafted breaking cart; I prefer a light road cart or sulky. I want assistance in hitching and like track bellyband, so he is hitched when it is buckled. I used snaps on hold-backs. Have a halter under bridle and have two straps on it and a man on each side so the colt can't turn. I drive on walking behind the sulky and finally climb on without stopping. Always have a whip, but use it prudently. Make him go by a scarecrow. A sudden turn from an object is a habit easily acquired. See it yourself first and make him go by.

Sometimes a colt will get hot and stubborn in the stall. Let him go at once and wait till next day. When a colt won't back use a side strap carefully and don't try to urge him when he is hot. I prefer to use blinds, though horses should be taught to go both ways.

HORTICULTURE DEPARTMENT.

CULTIVATION OF ORCHARDS.

By Joseph V. Kraus.

Brother Farmers and Gentlemen:—As I have been requested by the president of this Institute to write a paper on horticulture I will submit to you a brief culture of an orchard of my own experience. There has been so much written on horticulture that it is almost impossible for me to present any new points on planting, pruning and cultivating. In my experience of cultivating an orchard I find that it is strictly necessary to cultivate thoroughly. As to the selection of trees and mode of planting there has been so much written by nurserymen and horticulturists that I will not attempt to offer any new suggestions on this point. Now, as to the rotation of crops planted in an orchard I have one point to submit, which I have experimented with, and that is the planting of corn and pumpkins. As far as my experience with the different crops goes, I would plant corn in a young orchard above all other crops, as I firmly believe that corn in a young orchard is better for the trees than a thorough cultivation without any crops. First, because the corn protects the hot sun from scorching the ground and body of the trees. Second, it protects the young trees from heavy winds, so they will grow up straight, and it also prevents the wind from loosening the dirt around the trees.

When my young orchard got large enough that it formed a good sized head and prevented close plowing I planted pumpkins and cultivated them until the vines began to run, then I ceased cultivation and the vines will cover the whole surface of the earth and prevents the sun from absorbing the moisture and the trees will grow and thrive most luxuriantly. The vines also make a good mulch for the trees when decayed.

In selecting a site for an orchard I would prefer somewhat of a slope so that water will not stand on the surface after rains, and a deep soil and sub-soil. When properly planted on such soil, and the ground around young trees mulched with rotten straw manure, there is no doubt of success.

As to the different kinds of fruits there are so many reliable varieties of apples, peaches, pears, plums, cherries, etc., that I will not attempt to name the best, but will leave that for you to do.

Now, brother farmers, with my closing remarks I would like to impress upon your minds the importance of planting and experimenting with the raising of nut trees. I have several pecan, chestnut and a mederia, or English walnut trees. A nut tree makes a nice shade for lawn or field, and when old enough to bear the children will relish and enjoy their fruits.

SPRAYING.

Read by L. Berry Ford, Carlyle, at Clinton County Institute.

Mr. Chairman and Gentlemen:—The subject assigned to me on this program I consider a very important one. I do not deem it necessary to try to convince the fruit grower or farmer that there is need of something being done to protect his fruit trees from the ravages of many enemies that are preying on them. But my remarks shall be for the benefit of those who have made up their minds to try spraying.



LOADING THIRTEEN REFRIGERATOR CARS OF STRAWBERRIES

At Villa Ridge, Pulaski Co., Ill., Monday, May 21, 1900.







• OVER ONE MILE OF WAGONS LOADED WITH STRAWBERRIES

At Villa Ridge, May 21, 1900. As the result of co-operation, 135 refrigerator car-loads of strawberries were shipped from Villa Ridge for the season of 1900, and sold by the Fruit Growers' Association at an average of \$1.50 per case.

If you have made up your mind to spray, the first thing you need to know, is what you are going to spray for.

There are three enemies that infest our trees and they have to be met in as many different ways.

The first and probably the most destructive enemy is commonly known as blight, or fungus disease, which travels from orchard to orchard and tree to tree by means of spores or germs. This enemy is to be met by spraying with Bordeaux mixture. This mixture can be made very effective in the following manner: Use four pounds of sulphate of copper and four pounds of fresh lime to fifty gallons of water.

How to make it.—Suspend as many pounds as you need to use of the sulphate in a gunny sack in a barrel containing a gallon of water for each pound of sulphate. The sulphate will be ready for use in a short time and will remain in solution and keep during the summer. The next step is to slack in a long box as many pounds of lime as you have sulphate—you can divide your lime by measuring its surface. Now your lime and sulphate is ready for mixing, but do not mix until you are ready to use it.

Now if you wish to make fifty gallons of Bordeaux, fill your barrel or tank partly with water, then from your sulphate barrel pour in four gallons and take from your lime enough to equal four pounds of unslacked lime. Dissolve the lime in a vessel of water and pour it off through a strainer into your barrel or tank, then add enough water to make fifty gallons. When it is thoroughly mixed use as soon as possible.

The next enemy we will consider is the codling moth, which is said to deposit eggs on the young apple or twigs of the tree, which eggs produce a worm which enters the blossom end of the apple usually, while the apple is quite young.

To meet this worm we need to use Paris green or London purple, about one pound to 150 pounds of water.

The next important matter is when to spray. The first spraying I would give just before the buds open in the spring—this spray to be made of one pound of sulphur to fifty gallons of water. This spraying is to destroy any fungus growth that may have started during warm days of winter, or eggs of insects that may be deposited upon the branches or body of the tree.

The next spraying should be done as soon as the blossom falls, using Bordeaux mixture for blight and adding to each fifty gallons of water one-third pound of Paris green or London purple to destroy the worms.

Spraying in same manner should be done in a week or ten days, then try to get a little poison in blossom end of each apple.

We should try to do our spraying after rather than just before a rain, and the best results will be obtained by spraying even the fourth time.

There is another enemy to our trees known as lice, which cover the leaves and suck the life out of them. You will have to use coal oil emulsion in order to destroy them.

How to make coal oil emulsion.—To make fifteen gallons boil in two gallons of water one pound of soap until you have suds, then add to your suds one gallon of coal oil and mix thoroughly with your pump. When the oil is well mixed with suds you can add water to make fifteen gallons.

Another word to mixing Paris green and London purple: Use just enough water to make a paste at first and then you can easily dissolve it. Never put it into your barrel when it is in powder form.

Now one more word and then I am done. When you go into your orchard to spray, do your work thoroughly; leave nothing untouched from the ground to the topmost twig. Don't be afraid of overdoing it. Where you do your most work you will get the best results.

You will perhaps notice in reading what I have said, that I have entered largely into details. The reason that I have done so is that I believe your success in spraying will depend largely on your understanding the details of your work.

Trusting and believing if you spray your trees thoroughly you will be well paid in better and more fruit, I remain your well wisher.

THE FARM ORCHARD.

Read before the County Institute at Lawrenceville, Ill., December, 1899, by Willard D. Barr.

The profits of the commercial orchard have often been estimated. If the man with nursery stock to sell does the computing, the result is dazzling. If the orchardist himself handles the figures the result is more moderate. But the men who have had the most experience are unanimous in stating that the profits are in direct proportion to the amount of work and brains applied.

But as regards the farm orchard, far too many, in this section at least, absolutely refuse to believe that any money can be made from an acre or two of trees. And the average farmer has heretofore declined to admit that anything new in orchard culture can be valuable, and has referred proudly to the so called good old way. The average farm orchard has been planted with select stock—that is, stock selected by a fruit tree peddler. Each tree was placed in the ground fencepost fashion. The bruised and mangled roots were left to feed the untrimmed top, the ground covered with a heavy, choking sod as soon as possible, and without cultivation of any kind, nature was left to do the rest.

And nature did it. She has decreed that the weakest shall perish, and a mutilated young fruit tree, carefully surrounded by its worst enemies, is no exception to the rule. A few of the hardiest trees survived this course of treatment, however, and from what should have been the most remunerative acres of his land the farmer received a few barrels of third-rate fruit for winter use, a few bushels for sale at the grocery, and several jars of really good apple butter. And this, too, in one of the very best fruit sections of America.

But the southern Illinois farmer is doing some deep thinking nowadays, and the result is becoming visible in more corn, better hogs to feed it to, better horses, better methods and greater profits. He is thinking about his fruit, too. The writer recently attended a meeting of a farmers' club where a paper was read upon the subject of fruit on the farm. The reader was a farmer, not an elocutionist; there might have even been a grammatical error or two, but that address was one of the most able and helpful expositions of correct horticulture I ever listened to, and it was simply the result of scientific principles correctly applied. But there are yet too many who will answer all remonstrance by saying that it does not pay to take time and labor from the wheat or cornfield and apply it to the orchard. Here is a leaf from the book of my own experience: In the spring of 1897 I was placed in charge of a farm orchard of several acres that should have been in its prime, but through neglect it had become almost a failure. Many of the trees were dying from various diseases, others were choked by the close setting, others infested by apple scab to an extreme degree, and they all were choked by a heavy layer of sod diversified by bunches of forest sprouts and briar patches. My books show for that year sales to the amount of \$13.74 and an expense account of \$10.15, besides several weeks personal labor. The next year, 1898, there was a general failure of the apple crop, but in 1899 the orchard yielded a profit of \$20 per acre over all expenses of cash or labor, and although greatly improved it is a very poor orchard yet.

And now as to methods. The supposed old-time methods upon which so many farmers place their reliance are not those of our grandfathers at all. These old gentlemen knew a thing or two about fruit growing. Pomology now is intensely practical—we want barrels of apples and those apples quick sellers; we are reaching for dollars. But in the good old times horticulture was the recreation of the leisure class, the hobby of gentlemen, whose highest ambition was to increase quality and vigor, and who would have been

highly indignant if asked to commend some of the high-colored, heavy-bearing, tasteless market apples of today. And the labor of love of these worthy ancients built a firm and worthy basis for a great industry.

While rummaging the shelves of a second-hand bookstore, I unearthed a venerable copy of an American pomology, written by a prominent fruit culturist of the '50's and '60's, and in this work were laid down the same instructions and methods promulgated by our Bailey's, Burrell's and VanDeman's of today, although not so completely perhaps.

And in not a single particular was there a conflict between the ancient and the modern; in both thorough cultivation was the keynote. To quote our own State horticulturists: "The prime requisite to successful orcharding in Illinois is thorough and systematic cultivation." But in this cultivation we must recognize certain fixed principles, or our efforts may destroy instead of saving. Spring cultivation is essential to promote early growth. Shallow and frequent cultivation in summer forms a dry and loose blanket of earth that holds in the moisture so badly needed during our annual drouths. But with the beginning of our autumn rains our trees, invigorated, begin a rapid growth, continuing through the mild, early winter, only to be caught unprepared by severe weather, instead of being in a dormant state with wood well ripened. Fall plowing encourages this growth, yet I have seen farm orchards treated to a coat of fresh manure and plowed in the late fall, this being the sum total of the yearly cultivation. As a general rule orchard cultivation should be similar to corn cultivation, only continued six weeks or so later.

But the busy farmer may not have time for so thorough a method; and he also declares that his land must not lie idle, forgetting that this same land is raising fifty hungry trees to the acre. Next in value to clear cultivation comes cropping with corn; but corn can not succeed corn, and the off year should, if possible, be spent in feeding the land. Cow peas, turned under if possible, make a good feeder. Clover is another, if not cut for both hay and seed. And an orchard kept steadily in clover is done less harm than any other so-called noncultivable crop. Small grain, wheat, oats, or rye, will ruin an orchard quicker than will total neglect, taking as it does, the very elements from the soil that are needed in fruit farming, though rye plowed under before heading is a valuable method of fertilizing. Rapid stimulation of trees should be carefully avoided. Slow fertilizers only should be used, and then only in moderate quantity. Thorough cultivation is a fertilizer in itself, and perhaps the best one.

But after bringing our farm orchard to maturity we discover another enemy. In fact, both the air and the earth are full of him. A very incomplete list compiled by Wardour enumerates 170 different injurious insects. But modern science has provided powerful weapons with which to fight the small but not insignificant enemies. Even the dreaded San José scale can now be held in check, and it is very probable that in a few mere years a method will be devised that will eradicate it.

But our most injurious insect here, to the tree at least, is the apple tree borer. Of this there are three different species. The most common attacks the tree just at the surface of the soil. An egg deposited by the beetle hatches into a small grub which works inward and upward into the sap-wood; the second year it penetrates the hard wood, and weaving a cocoon when again near the bark, it remains dormant until the third spring when, transformed into a beetle, it penetrates the bark and escapes. The death of the tree is gradual, but certain. The remedies are few and uncertain, but safety lies in prevention. The eggs are laid during June and July, and during this period the trunks of the trees should be kept well washed with soft soap diluted with a solution of tobacco. A friend reports that he has, while spraying, thoroughly wetted the collars and trunks of his trees with the Bordeaux solution and has never found a borer in his orchard. Twenty peach trees planted by the writer were each wrapped with a leaf of tobacco near the ground, and although in a badly infested locality were not attacked.

The farm orchards of this locality are almost without exception infested with another annoying, but not usually fatal, pest known as the apple bark louse, or oyster shell scale. The trunk and base of the limbs appear as if sprinkled with very minute white dots. These are the eggs, which, hatching in the early spring, develop into a light brown scale. These gradually cover the lower limbs which wither and die, and the pest gradually works its way upward and outward on the tree. But the bark louse can easily be kept in check by applications of soap to the parts of the tree most infected, or by winter spraying with kerosene emulsion.

But our worst enemy attacks, not the tree, but the fruit itself. And it has worked to such purpose during the season just past as to damage the orchard product fully fifty per cent in this county. This insect, known as the codling moth, appears just before and during the blossoming period and deposits its eggs in the blossom, or later in the eye of the recently formed apple. From this egg is developed a small worm which at once eats its way to the core and thence to the side, from which it drops and entering the ground emerges the following spring a full fledged moth. The later hatched specimens remain in the fruit until it has fallen. This formidable pest can only be kept in check by careful and continued spraying.

The subject of spraying is so full that it extends beyond the scope of a paper like this. But I can not pass it without expressing an opinion upon its utility. Does spraying pay? This is the question asked by a multitude of fruit raising farmers and is one that can be answered both ways. When a spraying solution is being mixed, a prescription is being compounded, and the man who is not exact, and to whom a pound is a handful and a gallon a pailful, will not derive any benefit from using that solution. I know of no work requiring so much painstaking as the correct handling of a spray pump. The makers of a certain automobile advertise their machine as "fool proof," meaning that a fool with a monkey wrench and a burning desire to know how it is made can not put it out of order. A spraying outfit is not fool proof, and in the hands of a careless employé who is only working for "salt pork and sundown" spraying is a failure.

But I have found persistent and thorough spraying to be valuable, holding in check as it does fungus and insect pests affecting the fruit, and also protecting the foliage of the tree.

The farmer who wants to place his orchard on a paying basis, and yet is not sure as to the methods to be employed, will find in our Illinois experiment station a powerful friend and ally. Both the horticulturists and the entomologists employed there are among the best in America, and a simple request for information will be answered by bulletins containing full and practical directions. The farmer who has decided to put more energy and more thought into his business and to make more dollars out of it, can hardly do better than to grasp this helping hand extended to him, and to begin with his more or less neglected orchard.

WHAT FRUIT TO PLANT.

Read at the Adams County Institute by C. N. Dennis.

A man living in the fertile valley of the most noble river in the world, especially in that part best adapted to growing all of the fruits of the temperate zones, and, being one who has spent the best part of his life in growing fruit, may be excused for saying what has been said before, and often repeated, but still unheeded. Especially is this true when one rides through Adams and adjoining counties and sees hundreds and hundreds of acres which are comparatively profitless, that might be utilized in growing fruit to good advantage. With this preface, I will go to the subject assigned me.

The primer says "A stands for apple the little boy got," so we will begin with the apple, the king of fruits, and in considering what to plant, arises the question, whether for commercial or domestic use. If for commercial, they must be showy, (red preferred), productive, good keepers and of fair quality. It has been said that a commercial orchard should never contain more than six varieties and less is preferable. A circular was recently sent

to a large number of large apple growers in Illinois, Missouri and elsewhere, asking them to name the best three apples for commercial purposes. It might naturally be expected that a large number would be given, but from more than a hundred answers less than a dozen kinds were named, and in all but two or three instances Ben Davis headed the list, followed by Jonathan, Grimes' Golden, York, Imperial, Winesap, Gano, Willow Twig, Huntsman, Mammoth Black-Twig and Jannette. But were I planting for strictly commercial use I would plant Ben Davis only.

For domestic use, with a few to spare for near market and friends, a longer list, covering the whole season and also the difference in taste, select the kinds that do well in your locality and on similar soil and surroundings. For early, Yellow Transparent, Duchess, Red Astracan, Benoni, Sweet June, followed by Early Harvest, Golden Sweet, Maiden Blush, Wealthy, Rambo, Fameuse, Jonathan, Grimes' Golden, Romanstem, Rome Beauty, Winesap, Winkler, Willow Twig and Paradise Sweet. This list may be extended indefinitely as to taste, but is already too long.

For crab apples: Whitney, Transcendent and Hyslop.

With pears the great and nearly the only difficulty is blight. This I think can be partially, and perhaps wholly, controlled by use of fungicides. But don't be deceived as to a blight-proof pear, for it has never yet been found. For kinds I grow, Seckel, Clapp's Favorite, Bartlett, Howell, Flemish Beauty, Beurre de Anjou, Duchess and Keifer. I have grown many others, but these cover the season and have given me the best results.

Peaches—Twenty-five hundred dollars' worth of Elbertas were sold from ten acres this year and should probably head the list. Mountain Rose, Crosby, Old Mixon, free and cling, Stump, Globe, Crawfords, late, Champion, Heath and Lemon clings are good. Greensboro, Sneed, Triumph, New Prolific and Bokara are new kinds well recommended, but as yet little tried. In nearly every neighborhood there are good peaches, which are not generally cultivated, that are easily obtained by budding a few seedlings.

Early Richmond and English Morrello are the only cherries that have ever paid me, but Montmorency, May Duke, Dyehouse and some of the sweet cherries have advocates.

Wild Goose and Miner plums have paid me best, but there are several of the Japanese and hybrids that promise well, such as Burbank, Wickson, Abundance, Lombard Damson, Green Gage, Washington, Yellow Egg and others have many friends.

Gooseberries—Houghton and Downing still hold their own as producers among the many other tried kinds.

Currants—I very much doubt if the Red Dutch has been excelled as an all around kind. Versailles, Cherry, Fays and North Stars of reds, white grape and White Dutch are good; Pamona is of fine flavor.

Grapes—Moore's Early, Warden and Concord of dark, and Niagara and Packlington of light, with Delaware as a fancy kind, will fill the bill, unless one is fastidious about having specialties.

Strawberries, raspberries and blackberries should be grown on every farm for home use, but the kinds and their peculiarities and treatment is a subject broad enough for a paper; but raise for the family, and a little fruit sent to a recovering friend or a confirmed invalid, even if not eaten, gives more real pleasure and is more christianizing than loading their casket with flowers.

Keeping—First is preparation. Pick early. Yes, pick; not shake off, and handle carefully after picking, placing as soon as possible in whatever they are to be kept and handled just as little as possible. Cold storage is undoubtedly the best, keeping apples and pears in a temperature of 35 to 40 degrees. So successful is this that it is said there has not been a day for years that one could not go into Newhall & Son's store, on South Water street, and buy a barrel of apples, and in 1893 they had barrels of the Willow Twig grown in 1891. But as the cold storage plants are not yet available to everyone, the nearest anyone can approach to it the better, always remembering that even temperature is desirable, a temperature of 50 degrees being

better than a fluctuating one of 40 to 60. It is on this account that many cellars under dwelling houses are undesirable. Outhouses or cellars made on the same principle as an ice house is perhaps the best available for the average farmer. They should be made so they can be ventilated, but the ventilation should be under control and for that reason should not open directly into the open air, but either open into some other close room, or have a passage way with tight doors at each end. Use a thermometer to govern you, not trusting to your feelings as a guide. When the temperature outside is right doors may be opened; if too warm ice may be used to reduce the degree of heat. A building of this kind need not be elaborate or expensive. Ice houses are becoming very common, and a cooling room with double walls can be added with but little expense and will be found very useful in holding fruits, vegetables and many other things fresh for a longer or shorter period just in proportion as to how well they are constructed.

First—Pick early.

Second—Handle carefully.

Third—Keep in a cool, even temperature.

Fourth—Never handle unless for immediate use or market.

HOW CAN WE MAKE OUR ORCHARDS MORE PROFITABLE?

By H. A. Aldrich, Neoga.

Each one of us is asking himself that question and we are doing something tall thinking on that subject, and whenever you can get a farmer to think soberly and seriously on any subject that has to do with his success or failure, he will generally come out all right in the end. It is the fellows who do not think who always bring up the rear. The conviction is gradually being forced upon us, that the few orchards that have been sprayed and cultivated are giving their owners better returns than those left to take their chances. And why is it? If any one of us will stop to think a moment he will see that the orchard is the most neglected part of the farm. It yields so well under neglect that it has come to be the general belief that it does not need cultivation. It is the habit of uncultivated orchards to over-bear at long intervals when all conditions are favorable. Cultivated orchards, on the other hand, tend to bear more often but do not give us so heavy a crop, only in occasional years. If the bearing year is ever to be controlled, or rather if our orchards are ever expected to give us a crop every year, cultivation will be the first factor toward that end. What returns can you expect from an orchard when the soil becomes harder than the public road, and great cracks are formed into which you can thrust your hand for half its length? What other crop would you dare treat in this manner? Whenever an orchard over-bears remember it is damaged; and the conditions that season must be very favorable indeed, or you get very few marketable apples. Two hundred bushel per acre of good, full sized apples is not near so heavy a drain on the soil as 100 bushel of small, inferior ones. The 100 bushel of small ones may contain more seeds and cores than the larger ones, and it is in forming the seeds that makes the heaviest drain on the soil. The cultivated orchard will pass through a long and serious drought, and carry a heavy crop of fruit to perfection, that would ruin the apples in an uncultivated one. It will not only carry its crop to perfection, but will set a lot of strong, healthy buds for the next season. It would be impossible for us to alter seasons, but we can sometimes modify the conditions which those seasons produce. Take, for instance, that Neoga orchard; it has a wind break, or rather timber protection, on its north and west. Now, such a protection is all right, sometimes. But in 1897 there came a heavy white frost right in blooming time. The orchards that stood out in the open prairie where they got the full benefit of the slight circulation of air, were not injured. But this same timber belt allowed the cold, still air to settle in behind it, with the result that this orchard came out during the season with as poor a crop of lop sided, snarly apples as you could find in the country. The owner was so disgusted with the crop that early in the season he offered it to a buyer for 25 cents per bushel or \$1.00 per barrel, but could get no one to take them. The cultivation in one part of

the orchard was continued, and it was noticed later that the fruit on that part was improving, so that the price was improved also to \$1.25, and the quality and price continued to improve until they were finally sold for \$2.00 per barrel. And, mind you, the apples on the uncultivated part were not worth gathering. You may say that the result was simply an accident, as the owner in continuing the cultivation had no hopes or thought of improving the present crop, as he considered that past redemption, but was simply continuing the work as an experiment on next season's crop of fruit. Had he become discouraged early in the season at the poor outlook and stopped the cultivation, he would have lost that season's crop, and never knew that he had lost anything. It is like a fruit grower not far from Olney who took great pride in boasting that he had cut \$60 worth of hay from a certain orchard, but he never seemed to realize the fact that it had knocked him out of probably \$1,000 worth of apples.

Serious damage may result to a neglected orchard by a summer's drought, causing a checking up of the growth, a premature ripening of the wood, giving the leaf buds no time or vitality to change to fruit buds. Later in the season comes a period of warm, showery, springlike weather, causing a renewed flow of sap, swelling the buds almost to bursting, and the tree goes into winter quarters, figuratively speaking, with every pore open, and in an enfeebled condition. If that same orchard had received its proper cultivation through the season, that summer's drought would have had no effect on it. The cost of the cultivation of an orchard is not so expensive as the same area planted in corn. After an orchard comes into bearing it is better not to have plow put into it. All the cultivation can be done with the disk or what is better the cutaway harrow. After the top surface is thoroughly cut up, all the work can be done with a smoothing harrow. But you must not let this crust get too hard after a shower, or you can not break it with that implement, and will have to cut it again. The main idea is to keep about two or three inches of a dust mulch all over the surface. It need not be plowed and cultivated as though you were going to plant corn or potatoes in it, and you need not worry if it is not as clean of grass and weeds as a garden, or if you can not work the soil clear up to the body of the tree. Work the centers good, that is where the feed roots are, and as far underneath the limbs as you can without too much trouble, and those trees will fairly laugh at a drought. But remember this cultivation must be commenced early, as soon as it it dry enough to get into the orchard with the team. It will not do, until you get a good ready, or until you can finish this job or that job. A member of our State meeting made the remark that he did not believe in cultivation because he had cultivated his orchard after harvest, and it did not do it any good. Trees complete most of their growth by the first of July, and this early cultivation saves the moisture that has been stored up from the winter and spring rains, and puts the soil in fine condition, and enables the little feed roots, to find their dinner without so much work. To make it plainer will say that just as soon as the first leaf bud begins to swell, if not before, these little roots start on their mission of supplying food to these buds or leaves and they are most persistent workers until their contract is finished and the season ended; and then they die and the leaf withers and drops to the ground. If the cultivation is delayed until after the surface soil has become filled with little roots, you break them off and your work is an injury rather than a benefit. Early cultivation also warms up the soil, and sets the roots to work.

Cultivation should cease in late summer or early fall in order to let the tree ripen up its wood, and prepare for winter. But do not let that orchard pass through winter without some kind of a cover crop, to remain on the surface through the winter and be plowed under, or rather worked into the soil in the spring. Each one must decide for himself what that cover crop shall be for it is governed altogether by local conditions. It can be crimson clover, cow peas, soja beans, sowed corn, rape, vetch or rye. This shallow cultivation is recommended only for bearing orchards; young trees should be plowed deep—five, six or seven inches—in order to force them to send their roots down. It is almost impossible for our common ordinary winds to blow over or even lean a deep rooted tree. Of course the good plowman with any

judgment will not plow deep close up to the body of the tree, but will bear down on the handles and throw the plow out as he nears the tree. There is one crop that should never, under any circumstances, be permitted to grow in an orchard, and that is hay. If you can not afford to grow them separate, then quit one or the other, for they are both very unprofitable crops when the attempt is made to grow them together. The grass will always take the cream of the land, and you can not expect to get anything but lean picking from trees fed on skim milk. If you want to grow apples profitably you must grow them in some other place than a meadow. Sod lands always suffer from drought and they are always prolific breeding places for insects, borers in particular. If the young trees are making too much wood growth, and not bearing when they ought to it may do to sow clover for a season or two to throw them into bearing. But in the common grey soil of southern Illinois that will very seldom need to be done. Remember that you will get more and better fruit from a large, healthy frame than from a small, stunted bush of a tree when it does come into bearing, and in its tardiness in bearing it may be only laying the foundation for a succession of profitable crops when it does commence to bear. As a general thing the most prolific cause of a young orchard not bearing is cropping the soil too heavy. Do not try to raise two crops from the same ground in one season. When it comes time for your young orchard to bear, give it the whole ground, and in most cases you will not be disappointed. If your orchard is not profitable do not lay all the blame on it, but remember that in war it is the man behind the gun who wins, and it may be the same with our orchards.

The next most important thing that is rustling the mind of the fruit grower is: "Does spraying pay?" Without any doubt they will all freely admit that the two worst enemies that the apple grower has to contend against are the apple scab fungus and the codling moth. It is true it takes some trouble and expense to get ready to fight these two enemies. But is not the saving of a crop that returns you more than you ask for the land itself, worth fighting for? Many an acre of land upon which your orchard stands without that orchard would not be worth \$25 00 per acre, and yet one crop of apples has brought you from \$50.00 to \$100.00 per acre. Take, for instance, that little orchard at Flora. It has made to the owner returns of over \$1000 per acre. One year the apples were sold for \$250 per acre; another year for \$225 per acre, and the owner never touched them. They were sold in July, the buyer taking all risk and doing all the work of gathering and barreling. If that little orchard had been a railroad making such returns, for how much could it have been bonded? Why, the mind could hardly grasp the figures. And yet what was the cause of such returns? Upon investigation it was learned that the owner followed spraying and cultivation before 1892. Even at that early date he knew when to spray in order to check the ravages of the codling moth. Take the year 1898 for instance. What caused the failure of the apple crop? It is the general expressed opinion that owing to cold rains at blooming that the buds failed to fertilize. But carefully kept records show that the weather during blooming time of 1897 and '98 were identically the same, with the exception that in '97 there was a heavy white frost, and yet there was a good crop of apples that year. Then what caused the loss of the crop in 1898? The trees bloomed full and after the petals dropped close observation showed that fertilization had taken place, but while the little apples were still erect, and not larger than peas, the fruit and small stem were attacked by the scab fungus and they disappeared as if by magic from every orchard except those that had been persistently sprayed. We say persistently sprayed, because you can not always knock out the scab with one year's spraying. We firmly believe that if every apple orchard in this state had been intelligently sprayed in 1897 and 1898 that the old "Sucker" state in 1898 would have produced one of the biggest apple crops she ever grew, putting millions of dollars into your pockets. It was supposed at one time that only one orchard had borne a good crop of perfect fruit that season, but since then it has been learned that there were several, and on investigation it was learned that every one of them had been thoroughly sprayed. Take the orchard of L. K. Hazeltine, of Springfield, Mo., for instance. Last year—that is, in 1898, the year of failure—he made \$5,000 on his apples. In 1899 this same orchard gave him 700 barrels

of Ingrams and 800 barrels of Ben Davis. Do you suppose it is necessary to ask him if it payed to spray and cultivate? Mr. Morrell's peach orchard of fifty-one acres in Michigan, made returns last year of \$3,500, some of the fruit selling as high as \$7.00 per bushel, and yet neighboring orchards were almost a total failure, some of them meeting with the loss of almost every tree. He has been considered a crank on cultivation and spraying—jokingly offering a dollar a weed for every one found in his orchard—but such returns are enough to make even an Illinoisian cranky.

The scab is undoubtedly the most serious thing with which the fruit grower has to contend. After a severe attack of this disease it may take the tree several years to recover enough to bear a profitable crop, although during the interval it may be kept free from the disease. This apple scab is no new pest. It has been with us for years, causing many a failure which has been laid to the weather or the moon. Some years, especially a dry spring, the injury may be so slight as to be scarcely noticed; and other years, as in '98, it will attack the tree and fruit with such intensity as to leave nothing to tell the cause of the failure. And yet it rests entirely with the grower whether his trees shall produce perfect fruit or scabby fruit. You can take your choice, either to go to spraying, or to stand off and see the other fellow rake in the golden "shekels" while you are trying to convince him that spraying don't pay. There is no denying it any longer, for spraying has come to stay, and we might as well take our medicine first as last, for we have got to come to it. We will admit that it is a bitter pill, for there is lots of hard work connected with it; but in the end it will be for the benefit of the careful, painstaking fruit grower, for it will crowd the lazy, trust-to-Providence grower out of the business. The whole thing sifted into a nutshell is—we are growing fruit for the money there is in it, and there is no money in it unless you have perfect fruit, and you can not have perfect fruit unless you spray.

We will admit that there may come a spring when the scab may not attack our fruit and trees; but what of that? What is spraying anyhow but an assurance? And what would you think of that man's business ability who waited until he burned out before he would take out a policy? And yet what are you doing but risking the loss of a crop that would return you from \$50 to \$200 per acre for the paltry sum of from five cents to fifteen cents per tree? It cost just 15½ cents per tree last spring to spray that Neoga orchard, and it cost a neighbor just about six cents per tree, and Mr. Simpson's orchard at Parkersburg just 7 1-5 cents per tree. In this last orchard of 200 acres 10 acres only were sprayed, and that ten acres produced more marketable fruit than all the rest put together. Take the orchard of Judge J. R. Williams of Carmi. He gathered 1,800 barrels of Ben Davis from 35 acres of ground, which sold for \$74.28 per acre. He attributes all his success to spraying. He sprayed but once last spring, having been hindered by the rains. But now he has become so enthusiastic on the subject that he will attend to spraying more fully in the future, even if he has to spray between showers. And, by the way, that is the very time that our trees ought to be sprayed for the scab. It is only in moist weather that it can spread and do much damage.

Now in conclusion let me ask, do we not, as a general thing, depend too much on the Lord to give us a crop of apples? While it is a mighty good thing to have Him on our side, we must not expect Him to do it all, or there will be some tall kicking, and as a natural consequence we lose our crop of apples. The Lord furnishes the worm and the seed for the old hen and her little chicks, but does she wait for Him to do the scratching? If she did, undoubtedly that little brood many a night would go supperless to bed. It is the same with our orchards—if we expect to make them profitable, we have got to do the scratching; in other words, put more brain and muscle into them.

POULTRY DEPARTMENT.

POULTRY FOR PROFIT.

Paper read by Mrs. William Chandler before the Douglas County Farmers' Institute.

In speaking of my subject "Poultry for Profit," I wish to put it in such a light, that it will prove a convincing statement, viewed from the standpoint of either fancier or farmer. I presume the latter form a greater part of my hearers, yet I would like to speak of the former in such a way that the farmer might almost believe that he was "entertaining an angel unawares" in the poultry about his place.

But is the matron, who most often, has the care of this flock, and many times she wishes for conveniences, coops, houses, yards, etc., which the master is slow to provide, because he can not see "any money in it." It is right that he should view it in this way, for what good farmer would tolerate on his place any stock that was of no benefit? Is he not the bread winner and must he not look sharply after all the sources of income? And this, my dear sir, is a source of income. Not one of my lady hearers who has ever been a poultry raiser, but will bear me out in the statement, that there never was a flock of well kept fowls, but were able to pay their owner tens, and even hundreds of dollars in the year, if everything (and by everything, I mean eggs and poultry sold or exchanged for other supplies) were taken into account.

Please observe I said "well kept," that means, well housed, well fed, well watered. No other stock is expected to make a return without special care given it, but how often do we see poultry left to care for themselves, except for some corn thrown to them once a day. To begin with the house should be warm, not expensive, not elaborate, but free from draughts, so that the fowls can sleep in comfort. Next it should be clean. Clean it out once a week at least. Would you let your horse stall go that long? Then the feed, if you expect eggs, should not be corn exclusively, oats, wheat, millet, should be used in part. But most important of all is water. The want of water in abundance, and of such temperature as to be pleasant to drink, is the fruitful cause of the lack of eggs in the winter. And that is the time the hens must lay well, to be a real source of profit to the owner. Another thing that is often overlooked in this country of black loam, is the need of grit. (Among other bipeds, as well as the feathered tribe perhaps.) Our soil does not produce the "teeth" the fowls must have, to get full benefit from their food. It may be news to some, to be told that only the grit has sharp sides and angles, does the proper work in the gizzard. As soon as it is worn smooth, it is voided. In the absence of anything else, broken crockery is excellent, and if in need of grit, the fowls devour it eagerly. Stand a block of wood on end, gather up the pieces of broken dishes, take your hammer and pound them up, then call the biddies, and see how fast they will eat it, once they get a taste.

I am convinced that half the so-called cholera in this country is simply indigestion, brought on by the want of proper grinding material for their food. For my own flock I provide a grit that is very hard and sharp and since the second week of this month they have even 100 pounds. 'Tis true, they had been without for several weeks, except oyster shell, and ground bone, but even that being the case, it seems a fabulous amount.

When chickens are small, of course they must have constant care, but once well started, how soon they are to run about picking up half their living. What untold quantities of objectionable weed seeds they devour; how many insects that are the enemies of our growing crops, are picked up in the course of a season. Then the dozens of eggs they give us, the early fries, and later the stews, and roasts, fit for a king. But at all times, and seasons, their constant presence fills up the gap between other meats, "the penny saved" which in the long run means "the penny earned."

Now let me speak a word for the fancier. The farmer and the fancier are not so far apart, and independent, as would appear at first glance. It is a well known fact that the poultry buyers always prefer, and usually give a better price for fowls that are uniform in color and size. This is true of hogs and cattle, also. An "even bunch" is always sought for and brings a better price. How is the seller to meet the demand? His own flock is of many shades and sizes, that of his neighbors the same.

To whom then shall he turn for fowls that will bring about the desired result? Then it is the fancier who for years has been working to produce birds of uniform color, size and shape, steps in and supplies the needs with his standard-bred birds, the use of which will produce a very marked change in one season's time. Take for instance a flock of common hens; place with them male birds of the Asiatic class, Cochin, Langshangs or Brahmas, and your chickens from such a mating will average one or two pounds heavier at four months old. If that man is considered a public benefactor, who has made two blades of grass grow, where but one grew before, may not the man, or woman be considered a benefactor, who has made two pounds of chicken grow, where but one grew before. We fanciers are not all bad, if we do ask high prices for our fowls. We have to pay high prices too. The first prize cockerel at Quincy was offered to me, as a marked favor, for \$25. He was priced to others at \$40. He won the blue ribbon over me by just one half point. Perhaps the affirmative in this question, "that there is profit in poultry," would be strengthened by the statement of Hon. Sid Conger of Hope, Indiana. He said, first in responding to a toast at the banquet, and later in the evening in conversation with myself, that his books showed, (and any one could see them) that his poultry had brought him in cash, over \$15,000 during the year 1899. He also said his start in business was one setting of eggs laid by a large white hen with black in her wings and tail, for which he traded three settings of eggs from little three pound hens. His first poultry house a rail pen, the cracks stuffed with straw, and corn fodder all around. Of course he is one of the few who have made a success, and not all of us can hope to do as well. But I also talked with several lady fanciers while at Quincy, and one of them told me she averaged \$800 a year from her poultry. Another one told me that her income was about \$600, and that she, with help of a young son, took entire care of the chickens and houses, and besides that she had a class in china painting three afternoons in the week, and did all the cooking for four in family. I am sure you will agree with me that she earned her six hundred dollars. This chicken business means work, plenty of it, and not very agreeable some times. But there is a great satisfaction in seeing the fowls grow and develop, in watching the sheen and markings appear on the feathers, in noting the absence of certain defects which annoyed us last year, and the greater symmetry of the birds this year. There is the law of compensation in this, as in everything else. What we spend in time and labor, comes again to us, in the consciousness of having overcome difficulties, and achieved success. We have our ideals and each year we strive to come nearer to them.

One other though if you please. The average price for hogs the last few years has been below 4c. The price of cattle 5c, sometimes a little higher, but not above 6c except this past winter. The price of chickens in May and June is almost always 12½c, and seldom less than 10c. You have fed your March and April hatched chickens three months, and they are ready for market. You must feed your hogs eight months to make them the best marketable size, while your cattle must be fed 18 months to two years before they are "ripe" for shipping.

Which kind of stock will give the quickest returns? Where will your corn bring you the biggest price? Corn is king in this country, and the price it brings, converted into flesh, governs largely the kind of stock kept on a farm. Without making an actual test, I have estimated that one bushel of corn, fed to poultry, will bring three times as much as that fed to either cattle or hogs. Besides that, fowls are constant scavengers, and are thus partly self sustaining. Cattle depend wholly upon the owner for food, though hogs will forage for a part of their living, if allowed to run in a timbered pasture where they can eat the mast. Don't think that I want every farmer in Douglas county to give up all else, and go into the poultry business. Far from it, but I do wish that they would take a little more interest in the chickens. Help the good wife plan for them, make houses, yards and coops convenient. See that proper feed is provided in abundance, and in a positive, not negative, way, let her know that you realize the importance of the work. Chickens are a necessary adjunct to the farm. Then let it be a flock of which the owner may well be proud.

Lastly take one or two good poultry papers and read them. You will be surprised at the magnitude the industry has attained.

SWINE DEPARTMENT.

HOG RAISING.

Read at Henderson County Institute, by Ed. Claybaugh.

Mr. President, ladies and gentlemen:—I deem it an honor to be on your program, but the object of the committee would have been better served if the subject had been left for a master mind of long years of experience and observation. Success in any calling is desirable, but how to obtain success is what many are struggling for. To be successful with hogs the first requisite, I think, is the selection of the breeding stock, both male and female. The sow should be large and roomy, rather coarse in bone, with well sprung rib, good heart measure, good strong feet, showing general characteristics of a well matured, healthy and vigorous animal, one of a gentle and quiet disposition and superior feeding qualities. The brood sow having been thus selected, we will assume that she has been mated with a male of superior individual merit, with a strong, vigorous constitution. I think too many farmers and hog raisers make a mistake in thinking the male is the only necessary adjunct to successful hog raising, as many complain of too small bone, using the nice compact gilt or sow, when the reverse would give better results. But as none of us have reached where we can produce at all times just that which we desire, we can, by careful selection, raise our standard to meet the different requirements of improved methods of hog raising. Cattle feeders require a rougher type of hogs than the average farmer, who prefers to have his hogs fed alone. I am not prepared to defend nor do I believe in the Dominion theory of evolution, but believe that genera were created and that species were evolved and produced by man himself. I don't believe God ever made an African or Philippino, but a man. I don't think he ever made a draft or trotter, but a horse. Don't think he ever made a Berkshire or Chester White, but a hog. Each in pairs, and from the original pairs have evolved or been devolved by the ingenuity of man himself what is today everywhere spread out before us challenging admiration, and yet baffling all scientific exploration. If then, therefore, man can control the law of evolution by farming and maintaining types, is it not necessary for the farmer to be careful in his selection of breeding stock, both male and female, and not throw too much responsibility on the breeder from whom he makes his purchases?

Having seen the necessity of making the proper selections for the foundation of our herds, will try to show some of the points in keeping the produce healthy and growthy. In getting back to the time when our litters are wanted, we should aim to have as many as possible come close together, thereby evading, if possible, the disposition on the part of some to rob, which causes so many runts and unthrifty pigs. The feed should be given to the dam in moderation until the pigs are large enough to take all the milk with safety to themselves. The food given the dam should be of a variety, as all corn is too heating. A range in pasture is best at all times, as exercise is essential to health. Regularity should be the watchword, with moderation of food observed. We know of no iron-clad rule that can be laid down in governing the amount of food to be given each animal at each feed. After the pigs get old enough to eat, the best method, I think, is to have a pen where they can go at will and eat by themselves. In the same pen the salt box and wood ashes should be kept constantly before them. Water in abundance, with clover in season, are both indispensable.

In conclusion let me say, to make hog raising more successful the lessons of the past must be borne in mind. The efforts that were crowned with success should be repeated. Those that resulted in failure should teach us to find the cause and to change our course.

PROFITABLE PORK PRODUCTION.

Read by T. J. VanMatre, at the Stephenson County Institute.

It seems I am placed upon this program to discuss husbandry; and I shall not attempt to discuss this question from the standpoint of a scientific breeder, but from that of a plain practical farmer, which I am. I will briefly give you my experience with the hog, extending over a period of thirty years. In 1865 the old homestead upon which I had been born and raised was offered for sale and I found myself possessed with a strong desire to own the old home upon which I had spent so many pleasant days, and around which clustered so many fond recollections. So I concluded to buy out the rest of the heirs, and to do this it was necessary to place a heavy mortgage upon the old farm to secure the greater part of the purchase money. This was one of the oldest farms in southern Wisconsin, first having been cultivated in 1830. It had been so long so poorly and so persistently farmed that it would not produce fifteen bushels of corn or oats per acre. This thought very naturally occurred to my mind, "How are you going to improve the quality of your farm and at the same time reap a profit?"

At that time I was a subscriber to Moore's Rural New Yorker, one of the best agricultural papers printed in these United States at that time. Among its correspondents was a gentleman from Illinois, Jo Davies county, just across the state line from where I lived. He said a great many good things, and among other things he said the raising of corn and hogs persisted in would eventually make a man rich. Hogs being a good price, and a kind of stock which increases rapidly, I very naturally took to the hog.

Upon this land which had been so reduced by constant cultivation, I sowed oats and clover. And when the oats were nearly ripe the hogs were turned in upon the crop and allowed to feed themselves. And I want to say right here, I never have found any food better adapted to sows suckling and young pigs than green oats.

For two years after this the clover was pastured with the hogs, and in the fall the sod was plowed under and next spring planted to corn. When the corn was nearly ripe the hogs were turned in upon that crop and allowed to feed themselves. And in this way without the addition of any artificial manures, this same land has been made to produce from forty to sixty bushels of corn per acre, and is so rich oats often lie down. By this method of swine husbandry the mortgage was so easily lifted off my farm that I have continued to raise hogs and buy land. I sometimes think if I should live to be as old as Methuselah I would buy the State of Wisconsin and convert it into one great hog farm.

This would now be called a lazy man's way of farming, but it was quite profitable years ago, when land was cheap and hogs high. I once bought corn standing in the field for seven cents per bushel and fed it to hogs which sold for ten cents per pound.

A life long experience and observation have confirmed me in the belief that there is no branch of farming or stock husbandry conducted with a reasonable amount of judgment, and persistently stayed with one year after another which will do better by the farmer than the hog. Provided always that your farm is adapted to corn and clover, because these are the main essentials in the cheap production of pork. Prof. Henry says: "All things considered, the hog has been the most profitable animal kept on the western farms. And no small part of the wealth of western states is due to this one animal."

In this State we find two distinct classes of swine breeders. One class keeps a few hogs to consume the products of the dairy and what would otherwise go to waste, while the other class makes this their principal industry. I belong to the latter class and will briefly outline to you my method.

First I have a dry, comfortable place for my hogs to sleep in in winter, with a board floor to feed upon, which is kept clean. Their winter quarters is a stone basement six feet high with partitions to divide the herd. On this basement stands a corn crib which is never empty. While breed is much, feed is more. For twenty years past I have bred from young sows, taking

great pains in the selection of a sire. I raise hogs only for the Chicago market. If I were a breeder I would change my method. The pigs drop from May 20 to June 20, when the weather is warm. The sows then go to the timber to which they have access at all times. This goes far towards keeping them in a healthy condition, and the per cent of loss is reduced to a minimum. The pigs run with their dams on clover in a pasture for hogs alone. In ten or twelve weeks they are put in pens and weaned. During this time they are fed on corn and oats soaked in milk, if we have it; if not in water. When weaned they are returned to the clover pasture, and fed in addition a little corn. During the winter they are fed corn and oats. Corn principally. Next spring they are put upon clover with no other feed until September, when they are finished off with old corn. This takes from six weeks to two months. They are then put upon the market, usually bringing the best price at that time.

You will notice the hogs are wintered and sold when fifteen or sixteen months old. They are fattened when the weather is warm and when two bushels of corn fed to six well matured hogs will make more pork than three bushels fed to immature hogs in cold weather.

A great deal is said through the press about early maturity; and while this may be advisable in some cases it may not be in others. Early maturity means feeding concentrated and expensive food all the time. On high priced lands, and where only a few hogs are kept in connection with the dairy, this advice is sound. But when land is cheap and hogs can be grown on clover it is not.

This past season mature hogs sold in August for 5 cents per pound. In November young or immature hogs sold for 4 cents per pound, a difference of 25 per cent. Often the per cent of difference is even greater. While there are some drawbacks to wintering hogs, there are other things in its favor. A yearling hog four or five months on clover, will gain from 40 to 60 pounds. This gain is made with little expense as an acre of clover will pasture eight or ten hogs. And after a four or five months' run on clover the hogs are in the very best possible condition to fatten on corn. Select that breed of hogs in which you can see the most points of excellence.

If you conclude you want to handle hogs on the early maturity plan select a breed not too coarse; one that will put on fat when young, with smooth frame and fine bone. If you want to grow hogs to some extent on clover and other succulent food, select a coarse hog with more growth, with a frame that will carry the weight. I have never known large, fat, smooth hogs to be discriminated against in the Chicago market. At the present they are at a premium. I have shipped carloads of hogs weighing four hundred pounds that have topped the Chicago market.

If you expect a profit from hogs you must disabuse your mind of this one thought. "That any treatment is good enough for a hog." There is no stock kept upon the farm which will respond more readily to care than the hog. The general belief that a straw stack or a manure heap is a good enough bed for a hog has too often brought death to the hog and financial distress to his owner.

BREEDING AND MANAGEMENT OF SWINE.

Read before the Ford County Farmers' Institute by Hon. G. A. Willmarth.

The world and everything in it is constantly moving and progressing, and in no direction is science making greater progress than in the breeding of swine. The time is past when we consider a man's success in swine breeding depends upon luck. The question, then, of how to care for this important factor of financial accumulation to the farmer, is one that should stir us to careful consideration. I say important factor, because it is conceded by our best farmers that hogs yield the largest profit in the shortest period of time with the least expense of any animal we raise. Thus he has been accorded the title of "Mortgage Lifter," "The Farmers' Friend," etc.

Now I do not wish to be understood to be setting myself up as knowing all about swine, but will simply throw out a few hints I have gained from observation and experience, and if anyone is profited thereby I shall be amply repaid for my time, and the object of this paper will have been fully realized.

Now I take it for granted that every farmer raises hogs, but of course all do not raise thoroughbreds nor will I claim they ought to. But if you are to select a foundation for a new herd, get a thoroughbred foundation, even for pork producing purposes. As to the distinctive breed, it is entirely out of the province of this paper to advise. The improved hogs of today of all breeds are valuable converters of farm products into ready money, so I would say to any man, select the breed that you have a preference for. You will do better by them, and they in return will better repay you, than for you to select a breed not exactly to your fancy.

To the farmer having a good thrifty class of grade hogs, my advice would be, keep on grading, select your males each year from the same breed, don't scatter your forces by using a Poland China one season, a Chester White the next, or a Jersey Red the next, and so on, for that is mongrel breeding, and the man who is constantly changing from one sire to another is likely to be among those who say that swine breeding does not give commensurate returns for capital invested or labor involved.

But someone may ask the question, and honestly, too, does not such crossing of the breeds add to the vitality of the offspring?

Gentlemen, I opine not.

The successful breeder of today makes a specialty of one breed, and he becomes familiar with the best strains of blood, so that he holds in the recesses of his mind the knowledge of currents of blood that he can call into use with a degree of assurance that practically amounts to a certainty.

Having selected the breed you should use great care in selecting the breeding animals. Let them be the best specimens and not the culls or those that will not sell. No successful breeder does or can sell his best female animals. They are worth more to him than anyone else, especially if he expects to remain in the business. Of course I can see the propriety of selling some of the better gilts with a purpose in view of buying elsewhere their equal, so as to establish new families or lines of breeding. This may be well, but the best and most profitable animals are those that you have bred and raised yourself and know their ancestry.

In selecting breeding animals, the first indispensable requisite of a good breeder is the possession of a good constitution, good appetite, good assimilative powers, good digestion and inherited good health. They should be animals of good growthy disposition, with good lungs or chest, or, in the parlance of the experts, good heart girth. This is the workshop of the animal, and when you find a good, broad, full chest, indicating lots of room for lung development, you nearly always find a good back, good loin, strong bone and the possession of good health.

The females for breeding should be roomy, and, if you will pardon the expression, of a motherly form, with a sprightly movement, and a good appetite, while the males necessarily will be more masculine in their characteristics, yet I would have them correspond in general make-up and style as nearly as possible for the two sexes to be.

This brings us to the matter of mating for the best results. If there is any science in hog-raising, I am of the opinion that herein it lies. If there is any one thing figures as the cause of much of the disaster and loss that occurs in our business, it is this very matter of mating. Does the man that cares little what his male animals are make a success of swine raising? We think not. But it is the man with a knowledge of the currents of blood that his animals possess, and with a practical eye notes individual characteristics, thus bringing together harmonizing forces, that makes a success.

To my mind some very erroneous ideas upon mating seem to exist. It is quite a general practice, advised, too, by men of acknowledged ability, that in mating for specific results like the correction of evil, the extremes be used. For instance, were you desiring a fine, small ear, nicely tipped, etc., and

your females possessed large, flat slabby ears, the proper qualification in the male would be a very small, straight or upright ear. The reason being that one extreme would balance the other, and they apply this rule to correct all defects of form or constitution. Now I wish to take exception to any such theory in breeding. The possibility is granted, but the probability denied. There is an old saw that says "Like begets like." I hold that it does. If so, then the progeny may take after the sire, or they may possess the characteristics of the dam, or pigs in the same litter may closely resemble both parents. These resemblances, if they be defects, will appear in the second generation with added stubbornness. I am confident of the opinion, gentlemen, that we must select animals of the same general make-up, of like form and quality, if we would produce pigs of that stamp. The laws of heredity in swine are, I contend, different from the laws of heredity in horses, cattle, etc. There are strong tendencies to marked individuality in litters, especially if the litter be the outgrowth of antagonizing extremes. But if the animals mated possess in common the desired points, both being as near as possible to the ideal that you would produce, then there are desirable harmonizing forces at work and the progeny ought to be an improvement. This a vexed question, and there are many problems that might be discussed under its head, but I must hasten on.

Omitting the care of the male, which is indeed a very important matter that perhaps you will discuss, I come to the care of the dam during that very critical period of her life, pregnancy. First, she should have good shelter, a good bed, and plenty of room for exercise. She should be fed liberally, especially if she be a young animal, termed a gilt. There is but little danger of getting her too fat, as gilts are always alert to the cries of their young. A half starved dam will be unable to stand the tax soon to be made on her vitality, and a little excess of fat will assist much in repairing the wastes of her system. The dam's food should contain as much of the nitrogenous elements as is possible—food that will make bone, muscle and blood. Some corn is good, but an exclusive diet of corn is injurious. When it has been necessary for us to use rather more corn than was desirable, we have found that oil cake meal fed in conjunction had an ameliorating effect. Oil cake meal is nitrogenous and supplies those elements in the animal's rations very similar to those found in good clover pasture in June.

Too many sows in too close quarters is also injurious by their crowding together, and the vicious disposition of the bosses that are in every herd may cause some of the weaker ones to be injured. Theoretically we would counsel a separate pen and a yard for each dam during the entire gestation period, but in practice we have not met the theory.

I am opposed to a bit of advice that you will find in nearly every paper that you will find upon this subject. It applies to those who allow several sows to run and nest together during the winter, and you will at once conceive the advice of the giver differing only in the limit of time. We are told to shut up our dams in their little farrowing pens, say from eight days to two weeks previous to that ordeal, that she may become accustomed to her surroundings. I am opposed to this; the dam needs exercise just now more than ever, and to confine her closely she frets for the liberty that she has previously enjoyed. Defer this confinement until the very nature and instinct of the dam seeks seclusion, and she takes to the changed condition in a manner peculiar to no other animal. I know of no other animal that makes her own bed. It argues strong natural instincts.

Nature's method of feeding at farrowing is par excellent. I can suggest no improvement, but don't forget that the dam needs special care. She should be fed nothing scarcely for the first forty-eight hours, for it's a critical time for both the dam and the little ones. A bran slop or oatmeal mixed with dishwater is cooling and just the thing. After the third day the ration may be increased, until at the seventh or tenth day the dam may be put upon full feed.

The keynote of your success will now be good care and good feed. Another auxiliary necessary will be a dry bed, for a damp, cold nest is the prime cause of many ailments that threaten the life of the pigs. The houses should

be warm, dry, clean and thoroughly ventilated, and the sun should shine into them every bright day. We can not get too much sunlight into a piggery. It is death to the disease germ and life to the pigs.

Whole milk, nature's most perfect food for the growth and healthy development of young animals, should be our food standard for them while young, and the more approximate the better will be the results. This ration must be so formed as to be rich in muscle-forming or nitrogenous elements, for it has been thoroughly demonstrated that the bone and muscle of hogs fed on muscle-forming or protein ration, were on an average fifty per cent stronger and larger than those fed on fat and heat producing foods, rich in carbohydrates, and that those very important organs, the liver and kidneys, were much larger in the protein-fed hogs, so we must conclude that for the sake of health and vigor we need the muscle-forming rations. To stick to corn and corn alone, in the face of these facts, is the height of folly.

George McKerrow says that his experience has taught him that an entire corn ration soon damages the organs of digestion, and the main secret of good feeding is to get the animal, when intended for the market, to eat and assimilate all the food possible. This can only be done by feeding a proper amount of a balanced ration, for if we feed too much carbohydrates, we not only lose a part of the food, but overload the organs with useless work.

As a food for young pigs, we have found a mixed ration of fifty per cent middlings, twenty-five per cent corn meal, fifteen per cent bran and ten per cent oilmeal, wet up to a creamy consistency and fed three times daily in such quantities as they will eat up clean and at the same time appear to be satisfied, gives us the best results. In addition to this a few whole oats on a clean plank floor, and a few roots in their season, make valuable adjuncts. As they grow older we increase the corn meal, until at five to seven months old fifty per cent corn, twenty-five per cent middlings, fifteen per cent bran and ten per cent oil meal form their rations. Believing that a hog's stomach needs a fibrous food as a divisor we aim to give them pasture in summer and roots in winter.

You may question the profit in using some of these foods and ask, "Why do you feed bran, clover, roots, etc.?" Because, first, they act as a divisor for the more concentrated foods, and allow the gastric juices a better chance of permeating the whole mass; and, second, they are all nitrogenous foods.

Again you may ask, "Why buy costly oil meal?" Because, first, it has a highly stimulating effect on the digestive organs and the whole system without any re-action; second, it is one of the best nitrogenous foods that we can use.

When hogs are well grown, from seven to ten months of age, they will stand heavy corn feed for one or two months and lay on weight quite rapidly, but even then they will do better if fed a few middlings or roots.

Every farmer should understand the laws of animal growth; it is one of the secrets of animal growth; it is one of the secrets of profitable swine breeding. A great deal of feed is wasted annually because the feeder does not understand the laws of animal growth. Pigs for pork should be getting there every day of their lives or you are not getting the full value of your feed.

I want to quote Prof. Sanborn, of the Missouri Agriculture College, on this point. He says: "In my practice I have adopted the plan of not feeding beyond eight months of age." As an illustration, it requires nine pounds of milk to make one pound of growth during the first month. The next month, twelve pounds, and during the last period it requires fifteen pounds of milk to make a pound of growth. I will make thirty pounds of pork on a pig two months of age, for a hundred pounds of corn, where I could not make twenty-five pounds on one a month older than that, and you will find it an inevitable and unerring law that the older your hog grows the more food it takes to make a pound of growth. I mention it because it is the practice in the west to keep your shoats over and make pork at sixteen months of age. That which is on the last eight months costs you twenty or thirty per cent more than in the first eight months. Doubtless some of you have read this before, but, as it exactly applies to this time, I make no apology for this clipping. It might be well to add, however, that the rule is adapted to pork producing

rather than the best treatment for breeding animals. We have found wood ashes, charcoal, salt and sulphur, as well as slack coal, to be relished by our hogs, and, therefore, believe them to be good when carefully fed.

The comfort of the animal, however, has much to do with his development, and, to be comfortable, I repeat he must have clean, dry, warm and well ventilated quarters to rest and sleep in. To have this comfort it is not necessary to have an expensive hog house. In fact, most of these expensive hog houses are acknowledged by their owners to be a sad disappointment. A number of small, movable houses suit our ideas best for several reasons, among which are, first, cost; second, they can be moved to the pasture in summer, and, when the soil from one yard becomes foul from use, they can be easily moved to another; third, in case of contagious diseases there are not so many under one roof. There are many plans for these small houses, all of which have their advantages and disadvantages. The one that suits our idea best is made eight feet square on the bottom, with roof slanting from the outside of the floor on each side to peak, rear and front boarded up with door in center of front. The pen costs less than six dollars when completed, can be moved anywhere on a stone boat, and will accommodate anything from a brood sow and litter to six and eight shoats.

Start with a small herd and make haste slowly, read the swine periodicals regularly, observe everything sharply, attend to all the little details carefully, and, gaining experience as you proceed, you will avoid the fate of the man who deludes himself with the idea that instead of raising a few and raising them well he can easily raise a thousand pigs a year.

Now in closing I want to leave you with this thought, that swine husbandry, like any other industry, must have the right hand at the helm to make it profitable. One must have a liking for it and make it a study. Blood will tell and feed will tell. One person may take a herd of swine and make them pay, while another may lose by the operation. The shortest rule in application is to breed well, feed well, and then sell well. There is profit in so doing. There is loss in the reverse. If you can not bring yourself up to these requirements do not go into the business. If it is your nature to begrudge your animals all the grain they can eat, as being that much less to sell, don't raise them at all. But on the other hand if you take a delight in vigorous, lusty, young life with its keen appetites, if their comfort is a pleasure and a delight to you, if their daily growth is a matter of close interest, you will meet with attendant success in swine husbandry.

You have here at your hand all the elements of success, a choice of the best breeds to be found anywhere on this planet, and a range of food unequalled anywhere on earth, clover and timothy of the sweetest and best quality for pasture, and to put the finishing touches upon them you have such a wealth of corn that we hardly know what disposal to make of it. The raw materials are all about you in bewildering abundance. So it depends upon your skill and industry, to so use them as to produce the finest bacon in the world, in quantities which shall cause our treasuries to overflow with riches. On the farms of this country the world must for years to come depend for a supply of this essential element for a well fed people. Our own interest and a world's urge us to do our best.

EDUCATIONAL DEPARTMENT.

THE ART OF LIVING WITH OTHERS.

Read at the Will County Institute by Mrs. James Milne, Lockport.

In the study of this subject let us divide it into four heads:

- 1st. What is art?
- 2d. What is the art or living?
- 3d. Do any possess the art of living without living with others?
- 4th. Where should we cultivate the art of living with others?

1st. What is art? Webster tells us that "Art is skill in joining or fitting; the employment of means to accomplish some desired end; the adaptation of things in the natural world to the uses of life; the application of knowledge or power to practical purposes."

The arts are divided into useful, mechanical, industrial and liberal, polite or fine. The mechanical arts are those in which the hands and body are more concerned than the mind, as in making clothes and utensils. These arts are called trades. The liberal or fine arts are those in which the mind or imagination is chiefly concerned, as poetry, music and painting, sculpturing, etc.

These are all very beautiful and fascinating. One who really loves his art will become perfectly absorbed and devoted to it, spending his entire life in its study. Take for example the painter. He spends days and weeks in the study and reproduction of a little landscape, perhaps, or a figure, the model for which is furnished by the Great Artist, the Creator, in all the beauty and grandeur that nature assumes.

So with the art of living. If we would make a success of this art we must devote our lives to it, and take for our model the Great Artist and Creator, following the example of Jesus the lowly Nazarene.

The painter's work is a success only in the degree that he follows his model. So with the art of living. We make a success of it only in the degree that we follow our model or example.

This art of living should be classed with the fine arts, the finest of them all. What is more beautiful than the life of one who has learned this art and who lives to practice it?

But 2d. What is this art of living? Many persons live who do not possess or know of any art in it at all; who simply float with the current, taking what happens to fall to their share, idly drifting they know not where. Our definition of art tells us that it is skill in joining or fitting, so it must be skill in joining and fitting the circumstances or events of life into our lives, making them work out for us the most possible good for ourselves and others.

D. L. Moody and St. Augustine are examples of men who had learned the art of living, and although Mr. Moody began life at a disadvantage, having very little early education, his influence will last for years, and he being dead will yet speak for ages through his influence on the lives of others, his books and the educational institutions he was instrumental in building. These are memorials of greater value than monuments of granite though ever so lofty and magnificent.

Lord Byron is an example of a misspent life. With all the grand possibilities of his intellect and his wonderful genius, he achieved so little of actual value when he could have done so much.

3d. Do any possess the art of living without living with others? In the dark ages 'twas thought that the very best life to live was to hide away from temptation and sin in some monastery or convent, or to seek the hermit's life in the seclusion of the forest, or on the mountain side where one could be alone with nature and with God. But now we are coming to understand that our Creator placed us here not only to get the best for ourselves, but also for others, and he who lives only for self can not know the art of living in its truest and best form. But one may live in a large family of brothers and sisters and still live simply and wholly for self. Such an one knows nothing of the art of living. We must live with and for others, spend and be spent for them, bear with them and forbear.

What is the story about the three bears? I don't mean our childhood's story about the great big bear and the middle sized bear and the little wee bear, but the one about the husband and wife who had trouble to get along comfortably together. It was something like this: He had to bear a great deal from her. She had to bear much more from him, and they both had to forbear, so by bearing and forbearing they lived peaceably together ever after.

I believe there are some people with whom it is impossible to live at peace, but these are rare. Paul says, "as much as lieth in you live peaceably with all men." If we remember the golden rule—do to others as you would have them do to you—there are very few with whom we can not live at peace.

4th. Where should we cultivate the art of living with others?

1st. In the family.

2d. With neighbors and friends.

3d. In all business matters.

1st. In the family. What can the father do? He must be cheerful, leaving all gloom outside; helpful, not only with his money but his time; and thoughtful as to what more he can do. He should maintain a family altar, teaching the children by example and precept to look to the Father of us all for guidance and help in all the little details of life. He should manifest his affection for his wife in delicate attention, caring for her comfort and happiness as thoughtfully as when a boyish lover he courted her in her girlhood's home. Giving her his entire confidence, discussing freely and kindly business and family matters. If entire sympathy and confidence is maintained between husband and wife she will be very careful to keep the household expenses within proper limits.

The father will be careful to provide entertaining and instructive reading and amusement for the children, especially the boys, making home a happy remembrance.

2. What can the wife and mother do to cultivate this art of living in the home? She should always be neat in dress and housekeeping. She should always show refinement and gentleness and sweetness of temper. She should greet her husband with a smile and have the meals well cooked and served promptly, and make his home the brightest spot on earth.

"When Mr. Disraeli retired from the premiership he was offered a place among the hereditary aristocracy with the title of earl. He declined it with the intimation that if there were any reward thought to be deserved he wished it conferred upon his wife, to whom he attributed all his success. On the day he retired from power his wife took her place among the noble ladies of England by the title of 'Viscountess of Beaconsfield.'"

An old author says in regard to the qualities of a wife: "A good wife should be like three things, which three things she should not be like.

"1st. She should be like a snail to keep within her own house, but she should not be like a snail, to carry all she has upon her back.

"2nd. She should be like an echo to speak when she is spoken to, but she should not be like an echo—always to have the last word.

"3rd. She should be like a town clock, always to keep time and regularity, but she should not be like a town clock—speak so loud that all the town may hear her."

To help her children to understand the art of living, she should keep their confidence by always being interested in everything they have to tell her, and so encourage them to come to her with everything that interests them. A busy mother of my acquaintance finds time to spend an occasional afternoon on the ice, skating with her only son. This son as he grows into manhood will appreciate the fact that she did it only for his sake, and they will grow more companionable as the years go by.

The mother should pray with and for her children and be faithful in instruction and correction. She should help them when necessary with their studies and should make them feel that they have the best mother in all the world.

"The influence of the mother on the child is generally marked. Sir Walter Scott's mother was a superior woman, well educated and a great lover of poetry and painting. Byron's mother was proud, ill tempered and violent. The mother of Napoleon was noted for her beauty and energy. Lord Beacon's mother was a woman of superior mind and deep piety. The mother of Nero was a murderess. The mother of Washington was pious, pure and true. The mother of Patrick Henry was marked by superior conversational powers. The mother of John Wesley was remarkable for her intelligence, piety and executive ability, so that she has been called the mother of Methodism."

How should we practice the art of living with neighbors and friends? Manifest an interest in them and let them know that we value their friendship by going to see them often and in case of misfortune lending a helping hand. Keeping your fences in good repair, that your cattle, pigs, chickens, etc., may not trespass into your neighbor's newly planted garden, as he may be tempted to do as an old farmer I once knew, who, after repeated complaints to his neighbor about his chickens which would not stay at home, finally threw a stick at a small flock of them, maiming one. This lame chicken he killed and dressed and sent as a present to his pastor. All such incentives to a quarrel should of course be avoided, and cultivate a feeling of neighborly kindness and love.

The art of living with others in business relations should be cultivated as carefully as between neighbors and in the family. David Harum thought that "in a hoss trade you should do to the other feller as he would like to do to you and do it fust." But this principle would hardly tend to cultivate a spirit of love or help us toward the true art of living. In all business relations we should expect and demand in selling an article what it is really worth, but never take a cent more of value than it is honestly worth, *horses included*. In short, if we adopt the golden rule in all our intercourse with our fellowmen we will solve—the art of living with others.

OUR CHILDREN—THEIR TRAINING.

Read at the Twelfth District Institute, by Miss Cora B. Haldredge, Plainfield.

My subject is of most liberal proportions and rightly so, as it is second to none in importance. It is as a solid in dimensions. In length it sweeps on into eternity, its breadth includes every child of every race, color or condition of life and in altitude it reaches the throne of heaven and touched the heart of the Father to the end that He sent to us His well beloved Son, the Christ child.

O, fathers and mothers, as you look into the faces of those little ones, so dear to you, do you ever think of the words of the Master as He gathered the children to Him and said, "Of such is the kingdom of heaven?" What did He mean, dear friends? If the words have no significance for us is it not time we were searching for the truth in them? The Great Teacher spoke no meaningless words. Do not ask me their full meaning, for I do not know;

yet they are very suggestive to me. I remember that "He who doeth the will shall know of the doctrine," and I have reached the conclusion that this, like many mysteries, is revealed, step by step, to those who search.

It is easily understood that such a subject as mine can not be treated in its entirety in one paper, so I have selected but one line of thought and shall be able to make but a few suggestions along that line, leaving you to fill in, and round out the lacks.

Who are our children, who is responsible for them, and what is most important in our relation to them? To the first of these questions I answer—Our children are all those upon this broad earth today, together with those who shall come upon it during the years of our activity here. Who are responsible? Each and every individual that has reached years of discretion, and the most important phase of our relation to the children is their training. I repeat—training is the most important thing for the child. O that I had the voice of the wind, that I might whisper it to you with every breath of air that you let into your homes; shout it into your ears in the gale, or sigh it in the sighing of the trees. But this is unnecessary. All nature speaks of it to us. We have but to listen if we would hear. Some have done so and have translated the messages for us. "As the twig is bent so the tree inclines," is one; "As the sowing so will be the harvest," is another. The word train comes from the Latin *traho*, meaning to draw out; and what do we strive to do year after year with flocks, herds and crops but to draw out and develop the best, that perfection may be reached? As the cultivation, so the fruitage; as the care expended, so the excellence of harvest. But, I think I hear some one object, other things besides cultivation enter into the harvest results. Undoubtedly. It is impossible to enumerate all the causes that produce a given effect, for as it is true that every particle of matter in the universe attracts every other particle, so it is true that everything is causal in producing effects. We are concerned with those most evident and most influential.

In this rich middle country where the most precious gold is not mined but is produced in the full light of the sun by some strange alchemy of nature, who can say that care and cultivation are not the most effective means to an end? To be sure drouths, floods and frosts play their part, but ever since Hiawatha struggled for the saving of his people, the child of the corn, Mondamin, has been the object of painstaking care.

If cultivation is so important in these things it is infinitely more so in the case of our children, and so, I reiterate, *training* is the most important phase of our relation to the children. Training will overcome lacks in character, morals and body. Training will do more than high birth, blue blood, aristocratic progenitors, a fine family tree or the magnificent bequest of bonded aristocrats. We boast that in free America we have no aristocracy of blood, therefore no aristocracy. We deceive ourselves. We have one, and that not to be proud of—an aristocracy of money. How anxious we are to have our names on this peerage record. How we pinch and starve intellect and spirit, push aside and crush down others, even our children, that we may leave them somewhat of a legacy. The ridiculous and pitiful spectacle presented reminds one of Mrs. Glegg in "Mill on the Floss," whose sole aim and highest ambition was to leave, at her death, more money than people had any idea she possessed. Heaven speed the day when with clearer, truer vision, we shall appreciate the things that are worth while and seek to bequeath our children, not hoards of money, which may be their ruin, but a blessed dual heritage from father and mother, of good morals, pure characters and the influence of earnest lives. Blood is better than money if it be of a rich, healthful quality, feeding sturdy muscles, and clear, keen, active brains.

Let us consider the training of the child in relation to the school, the home and the world at large. How much do people in general know, by actual investigation, of the system of training carried on in our public schools? Is not the knowledge of the atmosphere of the school room based upon reports brought home by the little ones? In what other matter is the child's conceptions accepted as reliable? Visit the schools and learn for yourselves the condition of the rooms in which your children are compelled to sit for five to six hours per day, five days in the week, nine months in the year. A child's

surroundings have much weight in his training, and what comes more closely to him than the walls, desk and floor of his school room. Quiet toned, artistically papered walls, hung with prints of good pictures, will do more than can be estimated in subduing the rough element in schools. I once had in my school a little girl whom I considered almost unmanageable at first, but whose keynote I touched through the influence of Raphael's Sistine Madonna. At first she thought of the picture only as that of a "dear, sweet, cute little baby," to use her words, but when I told her that that baby was the little Christ child who was gentle, kind, loving and obedient, and who, when he grew to be a man, loved little children and taught others to love them, her love for the beautiful picture was increased and its effect upon her character was marked. Though she was by far the noisiest, roughest child in the school, boys not excepted, that picture had the power to hold her entranced for remarkably long periods.

Pretty paper is not expensive, and good prints of the most famous pictures can be had at one cent each. Some one has truthfully said, "Beauty is not expensive." Artistic effects are not dependent upon costly furnishings but upon blending of lights and shades. How is the school room heated? Don't expect any teacher to be able to properly train your child when the child himself is battling with chills and goose-flesh. Not two months ago I received a letter from a little friend who attends a country school in this our beloved Will county, in which he stated, with child-like directness, "The grate in the stove is broken and the cobs fall through, and teacher gets mad." I don't blame the teacher one bit. There is such a thing as righteous indignation.

Interest your children in their school work by talking with them about it. Have them bring their work home occasionally, praise them when they do well, and urge them to try to improve. Impress upon their minds the fact that it is faithful work done every day that counts. Advise them to make good use of their minutes in school that they may better enjoy their play time. Lead them to see that it is robbery to deprive others of their time by attracting their attention, talking to them, or in any way disturbing them. Children should be led to think of themselves in the school as individuals of a community the rights of whose members they must respect and whose laws they must regard. Naturally they will look to you as models in this.

Teach them by precept the course of right action. With the tiny tots try such expressions of thought as "Try, try again;" "He who always does his best, his best will better grow;" "Do your best, your very best, and do it all the time;" "Hearts, like doors, will open with ease to very, very little keys; and don't forget that they are these: I thank you, sir; and, if you please." When a little older, such as: "Life is not so short but there is always time for courtesy;" "He that conquers himself is better than he that taketh a city." Longfellow's Hymn of Life is replete with inspiration, and J. A. Holland's Gradatum, "Heaven is not reached at a single bound; but we build a ladder by which we rise from the lowly earth to the vaulted skies, and we mount to its summit round by round," is both instructive and encouraging.

If I were sending a boy to school for the first time I should talk to him on this wise: "Always remember, son, you are a gentleman, and mother expects you to be brave and honorable, no matter how hard it be. Never let me need to be ashamed of you. Do your best and see in how many ways you can be teacher's helper." There would be little danger of his becoming a goody goody child. Lead the child to do his very best, recognize his efforts and successes, but do not let him think of them as an end in themselves. Encourage him to do the best, be the best, learn all possible, but to what end? Not merely that he may stand out prominently before all others, but that he may be the better fitted to benefit his fellows. Implant this idea firmly in the heart of your baby as soon as he begins to grasp ideas of life, and when your hairs are gray he will not dishonor them.

In regard to the home training, many conditions obtain, identical with those of the school life, for all is life and not a preparation for it.

The most important part of home training is the teaching of obedience. This should begin in infancy, and is established in regularity of habits. As soon as a child is old enough to have a desire for anything he is old enough to have that desire trained along right lines, and that, for him, is obedience. I believe in telling children *why* they should do so and so. We want them to do only what is for the best, and in explaining to them why we are teaching them to mark out lines of conduct for themselves in times when they shall have no superior wisdom to counsel and guide them. There are times when unquestioning obedience is necessary, and the child must be taught this, but if he remembers that your commands have ever been wise and just he will at such times have implicit faith and be more apt to yield readily. Would I punish? Yes; as a means of correction, however, and not for revenge or because I felt crosswise and needed a vent for my spite. Never punish in anger, but when anger is cooled if punishment be needed do not shirk your duty, though it be a hard one. Study what will best fit the case and the child's attitude in the act of disobedience, for I repeat, it is for correction only that we should punish. No specific rules can be laid down, as no two children are alike in disposition. Study your child. Inflict corporal punishment as a last resort for it is better to hurt the flesh than to let the character become distorted and deformed. There are laws moral and physical to be obeyed as well as civil laws. If a child over eat, if he touch the heated stove, grasp the bright flame or glittering sharp edged tool he suffers bodily discomfort in consequence. If he persists in telling what is not true retribution comes in the form of disbelief on the part of his companions. Later in life, if he takes what does not rightfully belong to him, distrust is his recompense and he may be deprived of his rights as a citizen, for thus saith the law, and he has not learned to obey. By all means let obedience be the first lesson for our reform schools, work houses, jails, penitentiaries, and dens of wretchedness are filled with individuals who never learned to obey. Be gentle, but firm as the everlasting hills. Do not let your better judgment be overruled because the child longs to follow its own sweet will, or because you are in too much haste or are too indolent to give necessary instruction or impart correction. I said to a doting grandfather: "You should not allow that beautiful child to do as she does. You will spoil her. Teach her to obey." "Oh," he replied, "I can't bear to cross her. She is so cunning and so cute in getting her own way." "Suppose she cried for your razor because it is bright and she imagines it will make a pleasing toy; will you give it to her?" "Of course not!" was the indignant response; "I would not let her injure herself." Well, the cases are parallel.

Train your children to love their home, to desire it above all other places, and to help in the care of it. To insure this make home as attractive as possible. Books, pictures and music for the enjoyment of the children are more to be desired than upholstered furniture in the parlor or grand collections of silver and china in the dining room.

I once read of a woman who explained with an air of triumph and visible pride to the visitor she conducted into the unused, darkened parlor, that she had saved and scrimped for years and had at last been able to purchase that which she most coveted—a brussels carpet. It was a gorgeous affair of hideous pattern and colors that would not allow of an acquaintance with sunlight, but it was as good or better than any of the neighbors owned and cost a good round price. Not a book nor a paper was found in the house and the children dared do little more than gaze on the magnificence of that carpet. Make the children feel they have a part in the home and are not merely tolerated because they can not be gotten rid of. On the other hand do not make idols of them and slaves of yourself, but be co-workers. Let there be a wise division of labor and hold each child responsible for his or her duties. This training to responsibility should be begun early. As soon as a child can move about he is old enough to pick up the scattered toys. He will soon learn that it is his work, that he is expected to do it, and that in doing it he is doing his own work, not that belonging to some one else. If necessary let him see his favorite toy stepped upon, crushed and swept away because of his neglect. Do not let him have the fragments lest he find

them so alluring he will wish for more, and you be thwarted in your purpose. The principal of a school in this State has said it would be of great value to the child in his life at school if the habit of responsibility were well established before entering school.

Lead the children to acquire habits of temperance in diet, cleanliness, neatness, accuracy and precision. Teach them to be noble, magnanimous, frank, honest, diligent, kind-hearted, gentle, just, careful not to give pain, apt in aiding the weak. Train them to be courteous. Too often customs of politeness are considered affectations of manner. This can be true only when it is something put on for the moment, not inbred in the nature. Horace Mann assures us that "life is not so short but there is always time for courtesy." It is possible to exist without any of the pleasantness of life, but "it is not all of life to live." There is more in living than merely sustaining an existence, and little acts of kindness are gleams of sunshine along the way.

Plant in the young minds a thorough respect for old age. It is most distressing to witness the uppish manner in which some of our "Young Americans" treat their elders. Sometimes, indeed, they find it too much of a strain upon their dignity to attach the prefix Mr. or Mrs. to the names of gray haired friends, and as for accepting their opinions—such a thing is not to be considered.

Let us cast aside the antiquated idea that the boys must pass through a period of wildness; that they must "sow wild oats" or be fools. It is not considered necessary that a young colt be fed on musty hay, washed down with stagnant water, in order to make a valuable horse of him. Let the dogs chase him in the field till he runs wildly into the barbed wire fence, making beautiful tracings on his glossy sides. Leave the keen edged, sharp tined implements on the ground and encourage him to prance around among them. What matter if he does run a pitchfork tine into his leg or knock out an eye? He is gaining valuable experience that will make a fine, useful, high priced animal of him. No! You couldn't sell him to an Italian fruit vender. Be as sensible with the boys as with the colts. Be more cautious. When a colt gets hurt once he tries to keep from a second accident. All boys are not wise enough for that; they don't all have horse sense.

The foundation for relationships outside the home must be laid in the home itself. That which is habitual at home is sure to be in evidence abroad.

Finally, oh mothers, teach your daughters the mystery of their being. Fathers, instruct your sons concerning the meaning of their manhood. Do this yourselves, I beg of you. Do not leave your helpless, innocent ones to get distorted, monstrous ideas from low minded individuals who do not hesitate to so fill their pure minds with all manner of vileness that they become seething pools of filth, and it is a marvel that the manner of life is as correct as it is.

We do not expect a clear stream from a muddy source. So much of the physical influences the moral nature at different periods of the child's development, that I am inclined to think that physicians are somewhat remiss in their duty as instructors. They may declare it is not in their province to deal with morals. How then, are they to do nothing but serve pellets, mix doses and saw bones? No! Questions of moral cleanliness can not all be loaded upon the shoulders of preachers, teachers and philosophers. The physicians must aid in their solution and when they begin to instruct parents in regard to proper care of budding manhood and womanhood, then will be done away in a great measure, the experiences with our youths that shock and horrify the teachers, sadden the mother, and make the disgusted father wonder where in the name of all his ancestors his child got such low tendencies. Don't blame the poor child. Use the ounce of prevention. Teach and train. Have I made the training of children appear a great responsibility? Well and good. So it is, and none of us have any right to shirk our share in it, but should bring all natural and acquired powers into use in the discharge of the same. To be sure the burden lies heaviest upon the parents, but that

does not absolve the rest of us. The time is coming—is even now at hand—when only those thoroughly equipped can expect to prevail in life's arena. Let us say with Bishop Mallalieu: "Take good care of the children. Everything most depends upon the children."

MAKING THE MOST OF LIFE.

Read at the Will County Institute by Mrs. John Van Horn, Plainfield.

In accepting the honor conferred upon us by your respected committee, to prepare a paper for this Institute, we feel that imperfect as our efforts may prove no apology is necessary, for all are aware of our limited knowledge and experience in an enterprise of this kind.

However lofty our aspirations may be we can never hope to reach even a starting point of eminence gained by a Harriet Beecher Stowe, a Frances Willard and a host of others, but in this great field of life there is something for everyone to do. And having always before us the example of the unprofitable servant who hid his talent in a napkin, we feel it our duty to put forth our best efforts and strive to fill the place allotted us.

The subject given to present to you this afternoon, "Making the Most of Life," is a broad and grand subject, calling forth many thoughts and doubtless a great diversity of opinions. Some will say to amass a large fortune, that he may indulge in every luxury, gratify every pleasure, control certain lines of business and be known throughout the world as a man of great wealth and influence, would be making the most of life.

Others will say a gay and merry life with little or no care, with just enough to be comfortable, and no thought of the morrow.

Others again will look forward to the time when they shall have achieved a great name as a gifted author, an eloquent statesman, or these latter days to become a McKinley or a Dewey (or perhaps Mr. Patterson would say to become a John R. Tanner would be making the most of life.) All of these opinions and a score of others might be presented as the great aim or making the most of life.

But beyond all these are there not higher and nobler thoughts for each and every one? Life is grand. God made it glorious. Around it He spread the glory of the physical universe—suns, moons, worlds, constellations, systems, all that is magnificent in motion, sublime in magnitude and grand in order and obedience. God would not have attended life with this broad march of grandeur if it did not mean something more than the objects and aims we have in the outset alluded to.

Life is for a purpose, and every man and woman should form at the outset of their career the solemn purpose to make the most and best of the powers which God has given him. The old-fashioned, homely law, that the man who was to establish himself in life, must "take time to lay the foundation of reality, and gradually and steadily build thereon," holds good yet today; and if the young man or maiden would make the most of life let this foundation be laid with truthfulness, integrity and goodness, qualities that form the essence of manly character.

He who possesses these qualities united with strength of purpose, carries with him a power which is irresistible. He is strong to do good, strong to resist evil, and strong to bear up under difficulty and misfortune. Hence, we say, a grand and noble character should be the *first* aim in life for every man and woman.

Having thus securely built, an education should be acquired. Let boys and girls be taught, first and last, all that is necessary to prepare them for the *common* duties of life. A refined, classical education is desirable, but that it is indispensably necessary to make a success in life I can not with this view quite agree.

A young man may have mastered *all* the classics and yet be destitute of that knowledge of men and things *absolutely necessary* to prepare him for action either in private or public life. Classic lore and polite literature are

very different from that vast amount of common intelligence fit for every day use that he must have to render his intercourse with society pleasing to himself or agreeable to others.

He may have a large fund of fine sense, but if he lacks common sense he is like a ship without a rudder.

I do not wish to undervalue high institutions of learning, (for I am an advocate of those), but rather to stimulate those to persevere in the acquirement of science who are deprived of the advantage of their dazzling lights, Franklin, Sherman and others emerged from the work shop and illuminated the world as brightly as the most profound scholar from a college. In this enlightened age, with the high standard of our public schools, there is no excuse for ignorance. It is voluntary misfortune.

Every boy and girl with energy and perseverance, be he rich or poor, may acquire a good education. Then with education and noble character combined, let him launch out on the great ocean of life in pursuit of occupation. For, to a rational mind, what can be more distressing and insupportable than the feeling that life is destitute of any motive, or necessity of action.

Men and women were made for business, for activity and employment. The greatest have not disdained to labor, though at the same time aiming after higher things.

Chaucer was in early life a soldier, and afterwards an effective commissioner of customs. Milton, originally a schoolmaster, was elevated to the post of Secretary to the Council of State during the commonwealth. Sir Isaac Newton proved himself an efficient master of the mint, the new coinage of 1694 having been carried on under his immediate personal superintendence.

And we have abundant illustrations in our own day of the fact that many of our eminent men and women were accustomed to routine duties; they were not afraid of honest employment. It is not well that the young men and women should have the path of life made too easy. Better to be under the necessity of working hard than to have everything done for them without effort on their part.

For practical industry, wisely applied, always produces its due effects, and our success in life depends upon our own efforts. There are certain duties, on the performance of which depend our future prosperity and success, among which, are a strict adherence to industry, energy and perseverance.

For we can never succeed in any great undertaking without an energy to commence and an industry to urge it forward in proportion to the magnitude of the work. There are many men of great power of intellect, who fail to accomplish anything noble and worthy, simply because they lack these fundamental principles. The Rev. Cannon Liddon, in his lecture to young men at St. Paul's Cathedral, made an eloquent allusion to "work as the true end of life."

"The life of man," he said, "is made up of action and endurance, and life is fruitful in the ratio in which it is laid out in noble action or in patient perseverance."

"But the physical workers are not the only true workers. The lives of thought do not lie outside this division, for true thought is undemonstrative action. To pass life in indolence in a state of moral coma, is degrading, for life is only ennobled by work." In this we see great and noble minds put forth employment as a sort of stimulus to all we call progress in individuals and civilization in nations. Therefore, in making the most of life, we find three important elements necessary: character, education and employment. With these as a basis, the young man or woman who is careful day by day to build their lives with pure, upright, noble deeds, will raise at last a beautiful structure enduring to their praise forever: and with patience and perseverance they may easily enter the gateway of prosperity and "fully realize all their dreams of success and happy victory."

But with success crowning our efforts should this be all? Ah, no! Take life as though it was a grand opportunity to do and achieve, to carry forward great and good schemes, to help and cheer a suffering, weary, it may be a

heartbroken brother. Live not for self alone, but for the good of others, thereby imitating the example of our Heavenly Father who gave the great commandment to "love our neighbor as ourself." Then when we have fulfilled our mission here it shall be said "she hath done what she could," she hath made the most of life.

CASH, VERSUS CREDIT.

By Mrs. John M. Beerholder, Clinton, Ill.

In the beginning of one's business life it seems so prosperous to have unlimited credit, that it is no wonder that to many persons it seems an opportunity for advancement, but very rarely it proves so.

Take for example Mr. A and Mr. B.

Mr. A commences to buy on time. He buys what he needs, and usually what he wants, good clothing, buggies, nice furniture, etc., and supposes that as a matter of course, when crops are sold he can easily pay.

He expects to have at least an average crop and perhaps one above the average, but alas!

"The best laid plan
Of mice and man
Gang aft aglee."

How often wet weather comes, or droughts occur, rust strikes the oats, the wheat is winter killed, there is more or less loss among the live stock, sickness in the family and at the end of the year there is such an alarming discrepancy between the assets and liabilities that makes one wonder what imp of mischief has been mixing up the figures.

We suggest that the imp is the hope of all successes and no failures which is a condition that can never be attained by those engaged in farming or any other business.

There is an old saying that figures can not lie, but I think that depends on how you use them. If we count all our gains and none of our losses our figures are apt to lie and make us lie too, to our unpaid creditors.

Mr. B starts on a cash system with a clear understanding that there to be no store bills.

Naturally much more interest is taken in the butter, eggs, poultry and fruit sales, for from these sources must come for the greater part of the supply of clothing and table expenses.

For some years the family have no carriage, but the wagons and plows are paid for when bought. Cloaks and overcoats are worn that are considerably out of style.

The girls wear plain sailor hats instead of creations of lace, ribbon and flowers, perhaps their neighbors look on them as rather slow, quite behind the times and unable to appreciate the finer things of life.

But when their crops are sold the snug roll of bills do not have to be distributed to "the butcher, the baker, the candle-stick maker," but can be put on interest until a payment can be made on a home, to possess which should be the ambition of every family in the land.

One who lives plainly, dresses plainly may for a while be considered quite an inferior person. But to look ones circumstances squarely in the face, to determine to live entirely within them, to decide that they will not keep themselves poor by pretending to be rich shows the truest financial wisdom when unpaid accounts are turned into interest bearing notes, when the bills for another year are made with the same false hopes as before, it is but a question of time when financial ruin shall meet him face to face.

But to know that you have but a certain sum to spend serves to make you more careful to buy where your money will go the farthest, which will undoubtedly be where everything is sold for cash, as no one can conduct a

credit store with all its attendant losses and sell so cheaply as at a cash store, unless he is a philanthropist with an unlimited amount of money.

When the unfortunate debtor finds himself without money or credit he realizes sorrowfully that the possession of property for which he is unable to pay bring no pleasure to him and causes much harsh criticism from those who lose by his ill-judged buying.

And were I today told to select one motto to serve as a guide for all classes, all trades it would be this. "Out of debt, out of danger."

RELIEF OF THE POOR.

By Mrs. Flo J. Miller, at Platt County Institute.

One of the truths so often repeated and yet but lightly thought upon is "The poor ye have always with you." This assertion admits of no discussion, for our every day experiences bring to us the facts and figures which sustain it.

We are striving to make these facts more palatable to the over-sensitive taste by claiming the subject the more pleasing title of being a division of political economy, and as such a division we are dealing with a new subject, claiming there is something new under the sun.

"The science of political economy as we know it," says Warner, "is hardly more than a century old, while the art of aiding the poor has been practiced from time immemorial." Canon Barnett has called attention to the fact that of all agencies for the relief of the poor, the most important is that of the governmental agencies. It reaches the most remote township and hamlet, and cares alike for the native and the foreigner, the white and black and for every form of need and infirmity. Dr. Warner says: "In each commonwealth the fabric of the public charitable institutions rests upon the quicksands of the poor law, which few study and probably none understand." Each commonwealth makes laws which deal with the matter of public relief. First, by giving sanction and generality to local customs; second, by regulation of local administration; third, by creating and conducting charities which belong to the commonwealth itself. Dr. E. Munsterberg declares that the entire field of the poor law is simply a determination of the personal relations between the giver and the recipient. The poor law determines who shall give and who shall receive.

Let us look first at the recipient. Who is entitled to public relief? The legal pauper must, for some reason, be unable to support himself; for instance, because of infancy illness, infirmity, defect, old age, or lack of employment. He must be entirely a dependent, no relative who can support him. He must be without property or income and he must be a resident for a stated term, or related to some one who has that settlement. The pauper is at the bottom of the socially incompetent class, and real pauperism is a "general debility" of character. The pauper taint is strongly hereditary and yields only to heroic measures. Prof. Charles Henderson, of the University of Chicago, states the causes of pauperism may be accredited to drink, immorality, laziness, incapacity, extravagance, lack of work, accident, death of husband, desertion, mental derangement, sickness and old age, hereditary and pauper association. The old belief of Malthus and his followers was that poverty exists because the population increases faster than the food supply. A large class of economists believe that the cause exists in competition. All these things cause directly and indirectly pauperism and poverty, and we can but utter a hearty "amen" when we remember Warner said, "The man who comes to us saying he has found one single cause for pauperism discredits himself as promptly as the physician who announces he has found a single universal and all-sufficient explanation of bodily disease."

Very few statistics relating to the number of recipients of aid, the kind of aid, the causes which led to the need, etc., can be secured. The board of charities of this State inform us that no figures whatever, and no information along that line can be secured from their office which should be the fountain head for this knowledge which will in a comparatively short time be needed to keep in line with the progress made by other states looking to a study of the subject in all its phases.

In 1895 Indiana legislature enacted a law requiring that all official outdoor relief given in the state should be reported quarterly to the board of state charities. This shows the name, age, sex and nationality of every person to whom relief is given, the date, the kind of help given and its value or cost. This, to our mind, should be done in this State, and I hope this society will pass a resolution asking our representative to prepare such a measure and present to the next session of the Legislature of this State. Perhaps it would be well at this point to explain the meaning of the expression, outdoor relief, and to do this brings us to the second point made previously, viz.: The giver.

When an individual makes application for relief the duty of supplying or withholding it falls upon the State, the county, the township or the city. The State regulates the public relief given by counties, townships and cities. In a few states the constitution provides for the establishment and maintenance of a system of pauper relief. Outdoor relief is very seldom provided by a state tax.

Second and third.—In most states the county is authorized or required to relieve and support the indigent poor. The county may discharge its duty directly or it may employ local officials for administration. In some states the counties provide all outdoor relief. This is done by means of a poor tax known as a county tax.

Fourth.—The cities are agents with which we have little dealings in this county and as time is limited we will not touch upon.

Now to reach the points we especially desire this morning, we must have all State relief, dependent children, defectives and insane entirely out of the question, and divide our subject into indoor and outdoor relief.

Indoor relief embraces the cases cared for in the county almshouses. There has been for years attempts made to suggest some name which would not call forth the degrading sense, as the poor house. This has been changed to county house, almshouse, county infirmary and county farm, but the associations connected with receiving assistance makes this institution a degrading influence. In theory the poor house is a workhouse where it is expected every inmate shall earn his living by his labor in so far as his strength permits. The law takes no notice of the difficulty of securing labor from paupers the majority of whom are immature, aged, crippled, ill, vicious or possibly criminal. The almshouse cares for all the destitute not otherwise provided for. Its shelter is the guarantee against starvation which the State offers to all. Warner states that in 1880 there were 66,203 inmates of almshouses in the United States, or one pauper to 758 inhabitants; in 1890 there were 73,045 almshouse inmates, or one to 857. While the decrease in proportion to population might lead to the supposition of a decline in pauperism, such is not the case, but the states are making provision for special classes and thus relieving the counties. The report made by a specialist before the National Conference of Charities says the average age of almshouse pauper in 1880 was 45.1 years. In 1890 it was 51.03. In the South Atlantic and Southern Central divisions the average is lowest, while in the far west one-half of all the almshouse inmates are between 60 and 80 years of age. We have not the time to deal with statistics concerning the births in almshouses, the per cent of children who are inmates, and we are glad to say this number is fast decreasing through the influence of woman's clubs, home finding and children's aid societies.

The report of Mrs. Shaw Lowell, of Boston, shows that the popular impression that the almshouses give shelter to persons who through misfortune in business or otherwise, have fallen from high estate, is not borne out by the facts. This report also shows that an individual who accepts aid from the county, without a feeling of degradation, will again and again ask for further aid. The child born in the poor house, if allowed to remain, will in time become a fixture upon public charity. It was seen that a sure way to train up paupers was to rear children in almshouses. It may as well be mentioned here that, much to our surprise, we learned through our investigations that intemperance is held to be the chief cause in only from 1-15 to 1-5 of the cases, and

where an attempt was made to learn in how many cases it had a contributory influence, its presence can not be traced in more than 28.1 per cent of the cases. Probably one of, if not the chief cause of pauperism is hereditary and pauper association. I am a firm believer in the doctrine of heredity, and research and investigation only serve to strengthen this belief. Mr. Dugdale, in his paper on "Hereditary Pauperism," gives the famous Jukes case, where Ada Jukes, a criminal pauper, has left the hereditary taint upon hundreds of her descendants. This family has been traced back to a man called Max, born between the years 1720 and 1740; he was a hard drinker, a jolly fellow, worked when he felt like it, became blind in his old age and entailed his blindness upon his descendants. Two of his sons married two of the Juke sisters of whom there were six. The progeny of five of them have been traced through five generations. The number of descendants registered includes 540 individuals who were related by blood to the Jukes, 109 connected by marriage or cohabitation, in all 709 persons of all ages, alive and dead. The aggregate of this lineage reaches, says Mr. Dugdale, probably 1,200 persons, but the dispersions have prevented the following up of all the branches.

Another case, the Isaemals, was the result of an investigation conducted by Mr. McCulloch, of Indianapolis. This embraces a group comprising 250 families and 1692 individuals. Out of this number 121 women are prostitutes and fully three-fourths of the inmates of the county houses in Indianapolis and surrounding counties are said to belong to this family. In reply to the question as to whether or not any individuals belonging to this group are ever successful and independent, Mr. McCulloch said: "I know of but one who has escaped and is today an honorable man." I can not lift them up, they are all diseased morally, mentally and physically. The girl begins the life of prostitution and is soon seen with her own illegitimate child. These well substantiated cases will serve to prove to you, I feel sure, that heredity has much to do with the subject of pauperism.

Now let us take the other division, outdoor relief, and this is the division which we in this county have need to study and investigate. There are no statistics on outdoor relief available in the State, nor for that matter in many states. Outdoor relief is the relief given by county and township officials and these officers bear the titles of supervisors, commissioners, overseers, agents, auditors, trustees, etc. They are sometimes elected and sometimes appointed by the county authorities. They serve with and without a salary. In this county the supervisor of a township acts as the poor commissioner for his township and a nominal sum is paid him by authority of the board for supervisors of which each commissioner is a member. The mode, quantity and kind of relief are not prescribed by law. Outdoor relief is expected to be temporary. Outdoor relief is in kind not money, although this is an unwritten rather than a written law. When we began our investigation on this subject we were not ready to meet the array of information furnished by the figures in the report of the supervisors of this county at their various meetings. It has been only a short time since a complete itemized account could be obtained and so we have taken the figures for one year, from June 30 to June 30, and find that \$3,842.73 was expended for outdoor relief by Piatt county and this amount does not include the money paid for transportation or medical services in the various townships, nor the amount expended at the county farm.

Eleven persons were assisted more than twice. By this is meant more than two orders were entered for them. One name appears twelve times; 54 orders were for house rent and there were 392 orders drawn. This does not mean 392 persons asked for assistance for in several cases the orders were for, say, John Smith and others. This is an appalling condition of affairs. Piatt county is one of the smallest counties, but is a prosperous one, and that such a state exists certainly presents a subject for careful thought and I hope this Institute will discuss this matter, and if possible suggest some way, some plan whereby a better condition may be obtained.

When this subject was being talked of and a cause searched for, the ever ready one of politics was suggested. But politics will not answer, for under both parties, republican and democratic supervisors, the condition is the same. We have known cases where families of three and four, living in well

furnished houses, wearing clothes better than the writer can afford to wear, able-bodied persons are receiving help from the county month after month and in some cases year after year. In one case the assistance was asked and given in the name of the wife when her husband and two nearly grown sons were too lazy to earn an honest living and lived off the charitable people of the county. Throughout the State it is the same, little or no investigation, little attention to common business principles and no sane, deliberate inquiry into the actual needs of the applicants. The result is what might be expected. The unfortunate and imposter share alike, pauperism and professional mendicancy are fostered. In one family in this county a man, his wife and two children, perhaps more, are provided with a house by the county paying its rent, and the two children—girls scarcely in their teens—secure the means for the maintenance of the family by prostitution, and still no one can be found who will certify to these facts. Then the question arises, why? It certainly seems this county should stop and think a little on this subject. I do not for one moment mean to intimate that the township overseers of the poor are a dishonorable body of men. They work under laws loosely drawn and loosely interpreted. They follow customs which have prevailed among their predecessors for many years. They are not paid a sufficient salary to justify them in giving to the duties of the office the time necessary for their proper discharge. They are burdened with a multitude of other duties in addition to looking after the welfare of the poor.

How shall we care for the worthy poor and at the same time relieve the taxpayer of the county? Some have said send all the applicants to the poor farm and there will not be so many ask for aid. Then it is cheaper, for we can care for those at the farm "so much per capita." On the other hand those who favor out door relief claim on the plea of humanity that families are not broken up and the receipt of relief is not as conspicuous and hence not as disgraceful. Then again they claim it is economical, for many families can almost help themselves and it seems folly to require the county to care for an entire family where, by a little assistance they could care for themselves. Then again there are not institutions enough. Just step and think of the condition of affairs during the winter month.

Those opposed claim that out door relief increases the number of applicants because it is less disgraceful. The saving in cost for a single person supported is more than made up by the additional number who claim relief. It is urged that out door relief requires an amount of discrimination that is impossible where the work is done by public officials.

In the town of Brooklyn, Mass., a new almshouse was erected in 1883 at which time the overseers were giving full or partial support to 150 persons exclusive of insane. These were warned three months in advance that no rent would be paid after May 1, but that the almshouse would be open to any one needing shelter. On the 1st of May 22 adults and 7 families numbering 33 persons, became self supporting; 10 adults and 9 families numbering 39 persons, assumed the payment of their own rent, asking only partial support from the town and in no case was the offer of the alms house accepted. Dugdale and McCulloch held out door relief largely responsible for the persistence of the pauper families they studied.

The cure for the disease of pauperism, I am not able to name, but along the line of assistance and benefit may be briefly mentioned organization. This has been tried successfully in Buffalo, Evanston, Cincinnati, Belleville and many towns and small cities throughout the land. This organization provides for, we will say a district committee, whose duties are the thorough investigation of every request for assistance. While this might not be possible in our country townships in which there are no villages, in the towns and cities it would be found beneficial. This organization will prevent a duplication of assistance, provide for the needy and worthy, and at the same time ferret out the professional and unworthy. To explain this, I can perhaps make it plain by setting forth the plan proposed by the Woman's Club of this city and successfully advocated in other places. First we must have the coöperation of the supervisor, as well as the various churches, societies, etc.

Some one person has charge of the books in which is registered every application for assistance, the name and address of the applicant and the church, society, etc. to which he belongs. Visitors are appointed from each district of the city, say two from the north, and two from the east, etc. The application of Mr. Jones, say, is handed to the the visitor from the north part of the city, who visit the family and see for themselves their actual needs. Then if it is a worthy case and the the applicant belongs to the W. R. C., the Methodist church, etc., assistance is rendered by these organizations (if a general fund is not established) and a report is made of the assistance given and this is recorded. If, as is much better, a general fund is established, after an investigation is made assistance is given from the general office and a record is made at once. It is necessary for all orders and churches to refer all cases to this office to prevent duplication. I know of one case where the Methodist church, the Woman's Relief Corps and the county were all helping the same family at the same time, and were unaware any other assistance had been given. This would have been an impossibility had there been an organized charity here.

There is another side; many will ask assistance, not because they actually need it, but because my neighbor, Mrs. Brown, gets it, and I might as well have it as for her to get it. In the city of Belleville, this organized charity is largely controlled by the women, the overseer of the poor gladly turning all cases which the city has, to them. Mr. Smith, this winter applies for help and he is told he can have it if he will work such a length of time. This he does and he is given an order on the grocer, coal dealer as the case may be, for 50 cents worth of sugar, flour or so much coal, not \$2 worth of groceries, for in many cases where this leniency was granted, oranges, vegetables out of season, and luxuries were purchased rather than necessities. Men were put to work on the streets, snow was cleaned from the walks, and the city was the gainer. A pile of rocks was carried from one place to another when there was no other work in order that the person who was assisted might feel he must work for it. The case of women, they were sent to the school houses and asked to scrub the floors, the regular janitor gladly carrying the water for them. Thus the floors of the school houses were cleaned at least once a week, where formerly they were cleaned as is the case with our schools, twice or three times.

SOMETHING OF LIFE IN BRAZIL.

Read by Mrs. Eugene Davenport, at Champaign County Institute.

Comparatively little is known of that largest of South American countries, Brazil. In extent it is nearly as large as all Europe, or as large as the United States, excepting Alaska and the island possessions.

It extends from five degrees north of the equator to thirty degrees south of it, and like all large countries varies greatly in its geography, its climate and its productions. The equator passes through its northern portion and it has snows in the southern.

In the north, comprising nearly one-third of the whole area, is the great Amazon district; the west and central portion is an elevated plateau and is almost a desert and the great coast region extending nearly to the central part is mountainous.

One who has not given particular study to this Amazon district can hardly realize its extent and its marvelous variety of climate, of animal life and productions.

It is a vast plain some seven or eight hundred miles in width, between two and three thousand miles in length, and so nearly level that for a distance of two thousand miles from the ocean there is a fall of only two hundred feet.

We learned when children at school that the Amazon is the largest river in the world, but this conveys but little to our minds. Professor Agassiz says that it is not like a river but seems more like the flow of an ocean than an inland stream. As it flows into the ocean the color of its waters, being an opaque yellow, can be seen for a hundred miles out at sea before it finally blends with the great water.

The mouth of the river is divided by islands. The largest of these is Marajo, which has an area about equal to Ireland. As one sails up the southern division of this water, which is called the Para river, one hundred and twenty miles to the city of Para, keeping near the shore of the mainland, the expanse of water is so great that we can see but a faint outline of Marajo island.

The tide sets up the river over 300 miles and at Para it is so great that we witnessed a small boat try for nearly an hour before it could put passengers aboard our steamer.

The main stream, where the Para river leaves it, is twenty miles in width and for fifteen hundred miles shows little diminution in breadth, but presents a vast surface with a horizon of sky and water in either direction, and it has storms of its own that are dangerous to shipping.

Its opposite banks have distinct seasons. On the south side the rainy season begins in the months of September and October, while on the north side February and March are the rainy months. As the waters flow from the tributaries upon either side of this great stream at different seasons, its waters are being constantly pushed from side to side and the lakes and streams upon one side for many miles back are at flood tide, while it is low water upon the opposite bank.

The forests of the Amazon valley are particularly rich in fine woods, as many as 117 valuable varieties having been cut from an area less than one-half mile square. Many of the trees bear nuts which are used for food. Among those best known to us are the cocoanuts and the Brazil nut. The tree which bears the Brazil nut is one of the loftiest of the forest, towering far above its fellows. The fruit is nearly as large as a man's head and falls entire to the ground and is gathered in this way by the natives. Each fruit contains twenty-four of the nuts as we know them. Another tree is that which bears the cocoanut, from which is made our cocoa and chocolate.

Among the valuable trees of these forests is the india-rubber, which furnishes material for one of Brazil's great exports. From Para the world gets its best India-rubber or caoutchouc.

Besides the Amazon, Brazil has five rivers as large as the Mississippi of our own country—the Maderia, the Tapajos, the Tocantins, the Parana, and the San Francisco. The valley of the latter is 250 miles wide and a thousand miles long; it is extremely fertile and is one of the great corn and cattle regions of the world. Indeed, Brazil is the land of C's—corn, cattle, coffee, cotton, cane, cocoanuts and cobras. The coast city, Pernambuco, the outlet of this valley, is noted for its pineapples, which are the finest in the world.

Brazil is an agricultural country and but for the habits of the people might become very wealthy in her products. The Brazilian will not work, and since the freeing of the six hundred thousand slaves many of the plantations which were cultivated and upon which their owners grew wealthy, have gone back to a state of nature. This can not be said of the large coffee plantations. Brazil furnishes more than half the coffee of the world, and yet Brazilian coffee has little reputation for much of it is sold under the names of Java and Mocha. The Mocha coffee, so-called, is only the carefully selected kernel which grows on the end of the stem, which, instead of bearing two berries, grows one smaller but more nearly round. This berry is similar to that of the Mocha and is really superior in quality to the rest of the crop.

The best soils of Brazil are the terra rouge or red lands, and it is upon this soil on the high lands, usually on the slope of a hill, that the coffee plantations are situated.

These plantations make a beautiful sight with their dark glossy leaves and red berries. When the crop is ready to be gathered the berries are stripped off with the hands and gathered in baskets or let fall to the ground. It is spread upon the ground to dry and is then taken to the mills, cleaned, hulled and separated. The machinery for cleaning and hulling the coffee is very expensive, the cheapest is \$3,000, and often a large planter will have \$20,000 or \$30,000 invested in this machinery.

Personally I believe it to be a very erroneous idea that coffee to be at its best needs age. We have never been able to obtain in this country any coffee to compare in its delicious flavor with that which we got fresh from the mills before it was screened.

Coffee is the national beverage of that country and the people are literally drunk upon it. It is served at all times and places. You may be offered a cup by your merchant as you do your shopping, and the national receipt for its making is "black as night, sweet as love, and hot as hades."

It is like syrup, and so strong that it colors the lips and teeth. Only a small cup is taken at a time, but the times may be frequent.

The tropical region is a comfortable place for the agriculturist for he has no need to hasten to get his crop planted at a particular season. Corn, for instance, though requiring six months to mature may be planted any time from August to June, and at one time the crops are seen in all stages of growth, from that which has been planted recently to that which has matured.

It is not true as is often supposed, that vegetation grows faster in a tropical country—in truth it does not grow so fast in a given time as with us, for the days are shorter, but the seasons are practically continuous. The terms annual, biennial, etc., lose their meaning there, for a plant lives until it dies of old age. The cotton plant there lives year after year, until it finally becomes a tree into which a man could climb.

One can hardly imagine the luxuriance of tropical vegetation, not so much of the individual plant as of the mass. Everything grows wherever it can get a foothold, and a forest is so dense that it is not possible for one to get into it without actually cutting his way. The trees stand close and vie with one another as to which can reach the farthest and get the most sunlight. Great vines climb up the tall trunks reaching out for the limbs, and when a forest is cleared of its undergrowth these vines are left suspended from the limbs like great tree trunks themselves six and eight inches in diameter, bare of a leaf or stem for perhaps a hundred feet, for below the space has been occupied by shorter trees and shrubs. The ground is fully occupied, and over all climb smaller vines. The parasite abounds, and often one is not able to distinguish the foliage which belongs to a particular tree because of the numerous parasites which are attached to it.

The foliage is a very dark green, and with the bright-hued flowers in the clear and intense sunlight, it presents a brilliant and beautiful appearance, but to the touch everything is rough and spiney.

It is said by one writer that "the poetry of hay-making under the Southern Cross will have to wait till some future age," as grass there forms no sod.

The country abounds in small life. One does not need to go to the ant to consider his ways for the ant comes to him. He is the great worker of that country. In riding on horseback we have sometimes wondered what a certain black line across the road some rods ahead might be, and upon reaching the spot find it to be an army of ants on the march. Under a tree one may see a leaf walking off and upon inspection find beneath it a tiny ant which has it shouldered as one would shoulder a fork of hay.

The housewife is particularly troubled for meats or sweets of any kind can not be kept except upon tables which have their legs immersed in kerosene. If perchance a bit of paper upon the table touches the wall or floor you may be certain that in a very short time thousands of little ants will have found the bridge and crossed it. Kill a mosquito upon the window or a barato upon the floor and in a very few minutes the corpse will have disappeared. Kill a snake upon the road, and pass that way again in a few hours and there will be nothing left but the skeleton. No animal which dies is ever buried, for the vultures are soon there in numbers, and the ants and wasps finish what they leave. In that country the vultures are considered as lawful scavengers, and is an offense—punishable by fine—to kill one. They sit in rows upon the house-tops, making an ugly sight.

The principal coast cities are Para, the outlet of the Amazon district, Maranham, Pernambuco, Bahia, Rio de Janeiro and Santos.

Upon approaching Rio from the ocean one passes through a narrow channel between high standing rocks, scarcely wide enough for two ships to meet, and there opens before him the bay of Rio de Janeiro, the safest and most beautiful harbor in the world. Back of the bay, and supported by the magnificent Corcovado mountain, as if to shelter it, lies a white fairy city basking in the sun. All is so quiet, so fair, and so white that it seems like a dream city.

The city of Rio is the largest city outside of the United States on the American continent. It was fifty years old when New York's first rude huts were built. It is truly a cosmopolitan city, for its half million or more inhabitants are from all nations. The low buildings with white walls and bright red tile roofs, and the absence of chimneys and smoke, are some of the striking features of a South American city, and those which at a distance give it the appearance of having just dropped from heaven, so clean and fair it looks in the brilliant sunlight. But distance lends enchantment, and the illusion is soon dispelled when one enters the city to find the streets narrow and reeking with foul odors, the gutters filled with garbage and filth which fester and breed those awful diseases that scourge the southern cities, and everywhere that bird of ill-omen, the buzzard, lazily hovering about. Occasionally the mountain torrents wash away this filth, and the tropical sun is a good microbe killer, else conditions would be much worse.

The streets are paved with rough cobble stones and many of them are very narrow. One of the principal streets, the Rua da Ouvidor, famous the world over for its magnificent display of diamonds, is so narrow that two carriages can not pass each other and no vehicle is allowed upon it after a certain hour of the morning. Some streets are so narrow that foot passengers are obliged to dodge into the shops to prevent being run over by a passing vehicle. The names of the streets are very striking to an American. Many of them are named from historic dates, as the "Seventh of September," the "First of March," others from the names of saints, as "St. John the Baptist" or "St. John the Evangelist," or "The Street of Good Jesus." In the Argentine one city is distinguished by the name "Twenty-fifth of May," and another the "Ninth of July." In Rio is one of the noted botanical gardens of the world, with its famous avenue of Royal palms.

One finds in these cities strange mixtures of the old and the new. Street cars drawn by mules are the common carriers. They are called "bonds" because the cities were bonded to pay for them. The question, "Will you take the bond," is equivalent to our "Will you take the car." In contrast to the street cars and electric lights you will see darkies with huge loads balanced on top of their heads and mules with paniers over their backs loaded with produce or delivering water from leather pouches, or the creaking carts with solid wooden wheels drawn by oxen.

Upon the streets one sees the better people well and fashionably dressed in Paris costumes, not different, therefore, from Americans or Europeans; but one will encounter at every turn half-clothed beggars and naked children.

In the morning we were attracted by the cry of *lati! lati!* and looking out saw the milk vender, not with a beautiful painted wagon and prancing team with sterilized milk in sealed bottles, but you have the real article—the cow herself—with her calf tied to her tail, being led from house to house. You get your half pint or pint of milk delivered to you fresh from the cow—you are sure that it is not adulterated. You may wonder what role the calf plays in the transaction—it is an important one—for if the calf were not along there would be no milk to deliver, for it is a peculiar fashion among Brazilian cows not to give any milk unless the calf has first started the operation. In Cairo, Egypt, the cows are simple enough to be fooled by a dummy stuffed with straw, but the Brazilian cow requires the real article.

The intercourse of Brazil is with European nations rather than with those of North America. Conversely, that of the southern European nations is with South America instead of North America, as evinced by a fine French atlas of the world in which the same space is given to Brazil alone as is given to North America and to the United States, and among the few principal cities named is New Harmony, Posey county, Indiana. Truly, one needs to go abroad to know how his own country appears in the eyes of the world.

The city of Rio de Janeiro is the seat of government of the United States of Brazil. From it ten years ago sailed poor old Dom Pedro II, a vanished and broken hearted emperor.

The fact that Brazil was changed suddenly from a monarchy to a republic is known to all, but the manner in which it was accomplished may not be so familiar, or that it all happened one morning before breakfast, as is generally true of the many revolutions of that country.

For some time a republican party had been growing, not because Dom Pedro was not loved, but he was becoming an old man and had already talked of abdicating in favor of his daughter. The princess was not well liked. She was an ardent Catholic, while the republican element was anti-Catholic, and besides her husband, Count d'Eu, was a Frenchman.

The army and the navy are always opposed to each other. In November, 1889, some trouble arose between the imperial cabinet and the army. On the morning of November 15th the cabinet was assembled at the navy yard which also was head quarters for the army, and a number of battalions were present. About 8 o'clock Deodora da Fouseca, the marshal of the army, arrived and there were cries of approval for him from the army. Soon after the minister of marine, upon approaching the grounds, was ordered by a lieutenant to surrender to Marshal Deodora. Refusing to surrender and defending himself with a pistol, he was ordered fired upon by Deodora and he fell, wounded. Deodora then went to the room where the cabinet was assembled and told them that they were deposed in the name of the army and that they would be put under guard. At 11 o'clock he paraded the streets at the head of the troops and the republican leaders, and between this time and 1 o'clock the republic was proclaimed. The following day the emperor received notice that a ship would be provided on which he would be expected to leave Brazilian territory within the next twenty-four hours. Between two and three o'clock on the morning of the 17th, to avoid any public demonstration the emperor and empress were conveyed in a carriage to the ship, while the princess, with her husband and family, were obliged to follow on foot.

In the meantime there had been a meeting at the City Hall and the aldermen had also declared for the republic and requested Marshal Deodora to make a formal announcement for the "provisional government," which he did, announcing that "the people, the army and the navy of the nation, in perfect communion of sentiments with our fellow citizens residents in the provinces, have just decreed," etc., etc. This was the voice of thirteen millions of people who were properly astonished the next morning to learn what had been done in their name, but no resistance was offered. Day after day these decrees went forth until the world wondered how this differed from a monarchy.

This is an instance upon a large scale of the "revolutions" which were constantly occurring in state and municipal affairs. A little dialogue which occurred between a prominent Brazilian citizen and one American will serve to example the common sentiment.

"Who is president of the United States?" "Grover Cleveland." "Is he a good man?" "Yes." "Did you vote for him?" "No." "Why don't you get him out?" "Can't." "Why, is he head of the army?" "Yes, but that makes no difference." "Does the army belong to his party?" "Not all of it." "Won't the republicans try to get him out?" "Would the republicans fight for him?" "Is the navy on his side?"

This serves to illustrate a racial characteristic of these people—infidelity. A shrug of the shoulder excuses all things.

At the time we reached Rio, the president, Deodora, had just dissolved congress and sent it home because it would not vote to please him on some point, and the city was placed under military rule. We were obliged to obtain a police permit in order to leave the city. The country has some very peculiar laws. At the time we were there an English gentleman, resident of the city of Pernambuco, was fined for patching his own house roof without having first obtained a police permit, and a man could not post a notice in front of his place of business or kill a chicken without a permit from the city. In San Paulo he could not kill a beef or a sheep without a permit, but

could kill a chicken or a hog. At the city of Piracicaba, in which we lived, a man driving in from the country with one horse and a wheeled vehicle was obliged to have a license to enter the city. If he drove two or more animals it required another license.

All business was taxed in this way—even beggars were licensed, but there was no tax on the ownership of property. Thus it is enterprise and not property which pays the tax of the country.

The Brazilian is the Portuguese branch of the Latin race mixed with the native Indian and the negro. In that country "the family tree" does not rise above the first sprout, and it is not polite to enquire about one's ancestors. They have great pride of country and of person. They are a people of impulse and are extremely courteous. To a guest "all that is mine is thine," but you must not accept it.

A man does not hesitate to cheat his own brother, nor does he regard his word of honor. To call a Brazilian a liar does not offend him, but it is an insult to say of him "falta," which signifies he hasn't the means.

The language of the country is, of course, Portuguese, though one hears that of many lands.

The religion is Catholic, mostly of the Jesuit order. The priesthood is certainly degraded and they keep the people in ignorance. The bible is one of the forbidden books. The Brazilian calendar is well interspersed with fête and feast days, which interfere much with industries. Sunday is a holiday and is the day for amusements, such as theaters, concerts and bull fights, etc. Public functions and celebrations occur on this day, and men make it a day for business appointments. If a man draws a prize in a lottery it means a Sunday procession with rockets—indeed a Sunday without rockets would be strange.

Every household has its patron saint, and you may encounter upon the streets the vender of these little clay gods. A protestant may buy one for they have not yet been blessed by the priest. Protestant missionaries are doing good work in Brazil for they have established many schools which are helping much toward the education of Brazilian girls, who, under the old customs, were kept in almost total ignorance as well as seclusion.

The Brazilian has inherited much of the old time prejudice of his Portuguese ancestors, particularly in the esteem in which women are held. They are not considered as equals, and the wife is more the head servant than the companion. The father bargains for a husband for his daughter as he would for a piece of property, taking the one which can offer the greatest premium. It is difficult to persuade a man, even after he has become a minister of the Christian religion, to sit at the table with his wife and daughters. There are, of course, many exceptions to this, and under the influence of the missionaries and better educational facilities these old customs are disappearing, but moral standards and the esteem in which women are held must be raised before the nation can really become great.

The emperor, Dom Pedro II, was doing much towards advancing the civilization of that country. He established schools, built roads and railways and was the friend of the people.

Brazil has no system of regularly laid out roads. The fazendas, or plantations, are large and the buildings located on the stream. But the fazendeiro must be able to get to the town and he constructs a road to that end. The fazendeiro beyond him must also reach the town, so he lays out a road to meet that of his neighbor, and so into the interior, each man putting a gate where his fazenda ends. Thus "all roads lead to Rome" and the traveler continually finds a closed gate across his path.

Being kept up by private enterprise only, they become very rough, and from the city, Piracicaba—one hundred years old—it would not be safe, if possible, to drive a carriage five miles in any direction. Nothing but the wooden wheeled carts, whose squeal can be heard distinctly for a full mile, and an occasional trolley—a low wheel vehicle, resembling somewhat our buckboards—can travel the roads for any distance. Nearly everyone goes on horseback.

The fazendeiro locates his buildings near a stream in order to get power to run his mills and for water for household purposes. The casa, or house, is usually situated on the slope of a hill and as the streams have rapid falls they may be tapped higher up, and a water way dug leading close to the building.

This stream serves many purposes. In it the ducks swim, the laborer makes his toilet and bathes his feet to rid them of bichos, pestiferous little insects that bore into the feet, the family washing is done, and water is dipped up for all household purposes without reference to which of the former processes has gone on above stream, and the mill is run which grinds the corn for family use.

The mill is a very unique affair. A dam is made in the stream at the point where the mill is to be located, and only a small stream of water conducted over. The mill consists of a small log or heavy pole, perhaps 16 feet in length, balanced upon a post so that a box placed upon the shorter end when filled with water from the stream, raises the longer end to which is fastened a block of wood which acts as a pounder, or as a pestle in a mortar. When the larger end is raised the water spills out of the box letting the pounder drop into the wooden mortar in which is placed about a peck of corn to be ground. Thus it works in perpetual motion as long as the water runs. When some of the corn is ground sufficiently fine it is removed, sifted, and the coarser portions replaced.

A hen is considered to have about as little reason as any living creature, but given an occasion, she shows herself not devoid of intellect. The mill is her favorite feeding place. She watches the pounder, and when it raises she makes a grab for the corn, making sure to be out of the way when the arm comes down.

The fazendeiro's casa is usually a large rectangular building of one story, but that one is 14 or 15 feet high. The manner of building is to set posts at each corner then stand bamboo poles between the posts and interlace them with a very strong vine, the cepa, which grows very long and is often called the Brazilian's nail because used to fasten so many things. Then the spaces are filled with red clay made into mortar with water and put on with the hands. The better buildings are made of brick, but these as well as those with mud walls are given a coat of white plaster on the outside. As the red clay makes a very dirty looking stain, and there is no sod to prevent the rain from spattering mud against the sides of the buildings, many of them are stained red on the outside for about four feet from the bottom.

The roofs are either thatched with wild grass or covered with red tile. These tiles are about like a five or six inch drain tile split lengthwise. The roof is covered with half tiles laid with the grooved side up and the joints covered with others laid rounding side up. The space filled on our buildings by the frieze-board is there left open.

Our business took us to one of these old fazendas which had been one of the most prosperous sugar plantations. It was a typical Brazilian fazenda so I will describe it in detail.

The casa was built eighty years before on a beautiful slope. The front stood upon a wall three or four feet in height, while the back of the building was level with the ground.

This wall and open part under the house was a favorite resort for snakes. Rats were numerous also, and many nights have we listened to the rats squealing and bumping their heads against the floor in their mad flight from some snake that had not yet had his supper.

One enters the building into a large open hall which has a brick floor. At the right is a parlor, perhaps 18x24 feet, and back of this room an opening into it three small sleeping rooms, none of which has light or ventilation except through a transom over the door, save the one which comes to the outside of the building. The night air is believed to be unhealthful.

These rooms are finished, having wood floors, plastered walls and ceilings. The windows may or may not have sash and glass, but have solid board shutters on the inside. A passage way at one side led into a large area open to the roof, with earth floor and no window except the board shutter.

This was used as both kitchen and dining room in its largest sense, for here the family dined, the dogs eating at the same time food thrown to them by their master, and the chickens and small pigs contending for whatever was thrown upon the floor. The chickens were regularly fed upon the floor of this room.

Just back of the family sleeping rooms and opening into the dining room were the chickens' dormitories. This seemed to be for two reasons, to keep them from being stolen by the darkies and to reduce the number of baratas, which are immense cockroaches. Even with this precaution the baratas would sometimes escape. As we sat reading in the evening we might hear one traveling over the wall. The remedy was to throw a slipper at him and then search for his mate, for they always went in pairs. It was not necessary to dispose of the corpse for by morning the diligent ant would have carried away all but the legs and wings.

But to go back to the kitchen. The fogao, which answered the purpose of a stove, was built of brick something like a furnace arch. At the front was an opening perhaps 12x20 inches, into which was fed long poles or pieces of wood which as they burned from the end were again pushed in.

The top of the stove was covered with an iron plate having kettle holes, but no covers. The back of the arch slanted upward to make a draft into the chimney. There was a chimney, but it was seldom guilty of carrying any smoke, for when there was not as many kettles needed as there were holes, the smoke found easier egress than up the chimney. For years it had settled on the rafters and among the cobwebs, and the gentle breezes waited it down to season our food.

This stove was a favorite promenade for the chickens. I have seen them walking along its edge, craning their necks to peer into the kettles where perchance one of their number was gently simmering for our dinner.

Outside close to the house were the store houses and a little farther away the old slave quarters which were simply the mud huts, 25 or 30 in number, thatched with grass. In these huts were no stoves, the fire being built on the earth floor over which was set the kettle. The walls and floor was of the red mud and yet we once saw a bride come out from one of these huts arrayed in spotless white, dress, slippers and veil, but she herself was black. Query, how did she do it?

The working people were treated little better than slaves. If a man came to hire he was not provided with quarters but was left to find a place for himself, and was fortunate if he could find a bundle of corn husks on which to sleep in some of the out-buildings.

The workmen turn out at daylight and all except those who drive the teams go immediately to their work. Nothing is stabled except sometimes a special riding horse, and one horse or mule, with which to bring in the mules and oxen from the pasture. They are driven into a corral where a siege ensues until they are properly harnessed. This usually takes the time until 9 o'clock, which is their breakfast hour.

The men wash in the stream and "Old Sol" serves as a towel. Each man receives for his breakfast a plate of rice and black beans. They return to work until 2 o'clock when they have their dinner which is the same as the breakfast. Many a ducky preferred lying in the shade and chewing a length of sugar cane to coming to his dinner.

Like all important business in that country marketing is done early, and going to market one must be off as soon as it is light. The market is an open building in which are scattered numerous benches and tables.

In that ever green country one would expect to feast continually upon fruits and delicious green things, but instead it is a land of hunger, because of the ignorance and shiftless indolence of the natives and lower classes, which though living on the banks of rivers where fish abound, as in the Amazon district, large quantities of salt cod are consumed. It is not true as we

are often told that the people of a hot climate live upon fruits instead of meats. The people are meat eaters and it is dangerous to health to eat freely and indiscriminately of the fruits.

Few vegetables are grown and as one enters the market the possibilities for the day's dinner seem small. One finds little bunches of indescribable green stuff. Cabbage does not head there but sends up a long stalk with thick green leaves which are used for salads. Sweet potatoes grow abundantly and are found in the market. White or Irish potatoes do not grow well in heavy soil, but are shipped from Portugal at \$2.50 per bushel. We may find some one with his little basket of eggs and limes, the limes being very poor substitutes for lemons.

Upon the other side of the market may be found live chickens, whole bunches of them tied together by their feet in the most cruel fashion. Perhaps they have been brought there on mule back, a bunch tied at either end of a rope thrown across the back of the mule where they had been jounced up and down, their heads hanging, or perhaps tied in pairs and thrown over a pole in a cart. As the cart jolts the chickens are all jostled to one end of the pole, and with another jolt all sent to the other end, and thus they ride to market, perhaps a dozen miles.

If we wish bread we go to the bakery. We have our choice between *pao grande* and *pao pequeno*, the former is in long pointed loaves, warranted when shot from a cannon to pierce steel armor. The other, little bread, is in the form of rolls. It is all very sweet but one needs his mouth clad in armor while eating it.

For meat we go to the meat shop and enquire for *carne*. We find mostly beef, all fresh killed the night before. No meat is allowed to be kept after a certain hour of the morning. The animal is sliced up as you would slice a loaf of bread. If your order is large enough you may get a narrow strip from the rump to the hock.

The Brazilian must have his *feijao*; it is the staple article of diet of the country. It is a small black or brown bean, usually with a bug in it, cooked into a sort of a stew and thickened on the plate with parched *mandioca* meal.

The system of weights and measures used is that of the French, and things are weighed to you by the kilogram and measured to you by the metre, and you travel by kilometers.

Until recent years it was not good form for a lady to go on to the streets to do shopping, but instead the merchant sent goods to the house; but at the edge of evening the streets are thronged with ladies in gay and fashionable attire, and sparkling with many jewels, of which they are very fond. The houses are built close to the streets, and at other hours of the day, particularly as one goes to market in the morning, half dressed women may be seen at many of the windows listlessly gazing upon the streets.

The method of doing laundry work in southern countries is familiar to all. Early in the morning one would meet groups of black women with huge pans upon their heads containing the soiled linen, small and half naked children hanging to their skirts, while still smaller ones peeped out their heads from beneath the shawls which these women always wear over their shoulders, all going to the stream to do the washing. When there the little ones splashed in the water to their heart's content, and the mothers, with part of their clothing removed, waded into the stream and waged war on the soil of the linen by literally pounding it out on the stones, and woe betide buttons and fine laces.

In speaking to you of this great country and its people, I do not wish to leave a wrong impression. I have spoken mostly of those things which are in striking contrast to our own country and customs. As a country Brazil is beautiful and fascinating. Its mountains, though not lofty, are perhaps the more enchanting, for being old the outlines are easy and they are clothed to their summits with shrubs and beautiful flowering trees. The climate in many respects is delightful. There is a time at the short twilight when it is a joy simply to live and breathe the delicious air, it is so clear and pure.

The people are the remnant of an old civilization. Portugal was one of the last countries to be affected by the new order of things and her transatlantic colonies were already established, thus the people have inherited the old customs and prejudices which are so hard to change. There are many thoughtful and progressive people in Brazil and it is awakening to a new civilization which will in time supercede the old.

A PROBLEM OF THE FARMER.

By E. B. Bentley, Superintendent of the Clinton Public Schools, at the annual DeWitt County Institute.

It is a pleasure to know that one is in a community where school taxes are never criticised, where bonds for school buildings and school sites are voted unanimously. All localities are not so blessed. And yet there is no institution within our country, State or county, which ever has or will perform such benefits as the public school system. Localities, when they criticise high taxes, really do not mean to do so; it is a kind of habit into which some have fallen and can not avoid it for the time being. Suppose a gentleman from a distance were to endeavor to purchase your farm tomorrow, and you were willing to sell. One of the prime advantages you would impress upon his mind as you lead him through pastures which have fattened the best Durhams, or as you point out to him fields covered with stalks, which but a few weeks ago were weighed down with the best corn the country produces, is that just over the way stands the little country schoolhouse. There you are able to educate your children, perhaps, but half a mile from home, and if your boy has improved greatly during the year as pupil, you will tell the buyer so and that with great emphasis. Sometimes we weed out by taking the smaller and less promising stalks and allowing the stronger and more vigorous to grow. If you have done that in your school district as relates to teachers, you make known the fact that we now have the best school in years and it helps wonderfully to sell the farm. There is not a man in any school district in our country, if he is a good American citizen, except he glories secretly if not openly in that we have the best public school system on the face of the globe. When the farmer asks himself the question whether he will remove into a district which has poorer schools, it is quickly answered. He will remain.

Thousands of men of culture and refinement, with their families, come to our shores annually. Although their route is bounded by invisible boundaries and lines not impassable, they leave Canada to the right. Mexico, with products enough to feed the world, South America, with products enough to feed a hundred worlds, are passed to the left; and this continuous stream is launched upon our shores to enjoy the communion of a free, equal and liberty-loving people, made more so by our public school system than any other factor.

It might be interesting while passing to note the annual expense of educating our boys and girls. We hear much of the educational methods and advantages of some foreign countries; but when compared with our own are insignificant. We are a nation of readers and educators. A recent review speaks with admiration of the fact that the United States publicly and privately contributes five times as much annually for public purposes as any other nation in the world, and spends nearly as much per annum for educational purposes as do England, France and Germany combined. The example of this country is helping in other parts of the world. The total expense of conducting our schools runs something like this: We have an enrollment of 15,000,000 pupils, taught by a corps of 405,301 teachers, at an annual expense of \$191,210,696. Of these numbers Illinois furnishes 939,000 pupils, 26,236 teachers, and our schools are managed at an expense of \$16,000,000. We stand third, New York and Pennsylvania leading.

But while we teach with text-book and teacher at such a cost, we as fathers, mothers, teachers, can give many practical lessons at a minimum cost.

You each have read the following words, but what more valuable heritage could you bequeath to your son or daughter: "Integrity and industry are the best possessions that any man can have, and every man can have them.

"Nobody can give them to him or take them from him. He can not acquire them by inheritance, he can not buy them, or beg them, or borrow them.

"They belong to the individual and are his unquestioned property. He alone can part with them. They are his to keep. They make happy homes. They achieve success in every walk of life; they have won the greatest triumphs for mankind. No man who has them ever gets into the police courts, or before the grand jury, or in the workhouse or chain gang.

"They give one moral and material power. They will bring you a comfortable living, make you respect yourself and command the respect of your fellows. They are indispensable to success. They are invincible. The merchant requires the clerk whom he employs to have them. The railroad corporation inquires whether the man seeking employment possesses them. Every avenue of human endeavor welcomes them. They are the only keys to open the doors of opportunity to a struggling manhood. Employment waits on them; capital requires them; citizenship is not good without them. If you do not already have them, get them."

While it is necessary to cultivate a healthy school sentiment, yet I believe there are many lessons to be taught which are never gained in the school room, but must come from the broad field of practical experience. Teach the boy less of books and more of that for which the books stand, and he will become a broader citizen, a more cultivated scholar. Teach at your own fireside in your own home the great lesson of integrity, and you have given him a better start in life than the bequeathing of the best corn-producing, the most highly cultivated farm in DeWitt county. You have given him a character which is unassailable and he as his parents will treasure it forever. Teach him industry and you have given him a lesson in which he knows life is worth living. How miserable the life must be which has no ambition, which forever says I am going to do but never does; which with jack-knife and stick whittles away a purposeless life.

These traits generally become permanent in youth. The boy who employs his leisure in idleness seldom ever changes. The teacher can not give him industry. He can help, but without the coöperation of the parent, with the boy disposed to idleness, little can be accomplished.

And here, let us inquire, parents, how is the teacher progressing in your district? Your answers will vary. Isn't your boy succeeding as he should? Perhaps you may answer no. From what source is your information? Have you visited the school during the year? Have you ever by your presence given the little rural school teacher over yonder any encouragement? Have you ever visited the school in which your boy is being educated? These are some of the questions which every farmer should be compelled to answer, and if he is troubled in his replies, he should hie himself to the district school building and get information.

You have a hired man plowing in one of the back fields, perhaps, a mile from your dwelling. Each day finds you watching carefully the work. You wish to know whether the team is being overworked and whether the man is industrious. If you are satisfied, the next time you meet your neighbor you tell him you would like to know where you might find more such help. Our interest in schools is not what it ought to be. We love our children more than all our farms; but we are more absorbed in money making than the education of our boys. "We want to buy more farms to raise more corn to feed more hogs to buy more farms to raise more corn to feed more hogs."

But the boy does not receive his entire education in the school room. Each and every parent should and must be a teacher if his boy advances rapidly. This is a progressive age, and it should be the aim of each farmer parent to launch the boy into the activities of life far above his own plane of information, or where he himself leaves off; the age requires it, the world demands it. But it often happens that when the boy leaves the parental roof, he has everything to learn in a business sense. Learning does not come from a text book, as many of you believe. You may give to your boy the best collegiate education that a Yale, Harvard or Princeton college may afford, and the boy nine times out of ten will fail unless he has the practical side. The grammar, geography, arithmetic, history, amounts to nothing except to discipline

the mind, broaden and expand it, that the man may be capable of solving those greater problems which must be encountered in an active business life. The teacher is not a teacher who assigns a lesson day after day from a text. The child has not gained most who has passed over the greater number of pages. Pages of arithmetic do not count. But what does count is the efforts which teach the child to be an observer, thinker and actor. That boy will be able to take a load of corn to market and bring to the parent the correct amount of money, and you will not question the transaction. Too much memorizing is done in our schools and not enough of thinking. There are other faculties of the mind than that of memory. Does your boy read? No. Why? Well, here, my parent friend, you may begin as teacher. I am not surprised that your boy comes to Clinton to spend his evenings, or that the Clinton boy is on the streets until far into the night. If you have children, build up your libraries and let them lean on some of the greatest lives that America has ever produced; or drink at the fountain of some of our unblemished characters. I will rather a child of mine shall be a reader than the greatest multi-millionaire America will produce. A good, readable library in your home will be a better investment than the best farm De Witt county encloses. Build up libraries and there will be less of gambling rooms, and fewer wine cellars; but there will be more homes and greater charity. Young men and women will have amusement in their leisure. Let us give them books.

When you have occasion to come to town and you can conveniently take the boy along, avail yourself of the opportunity. Do not tell him to remain on the corner or at some store until you return, but take him to the bank and allow him to draw or deposit money, as the case may be. You will give him a lesson which need not be learned when he begins business for himself. I remember many such events in my past history when my father might have given me valuable lessons which sad experience has taught. I hope the farmer of today has made advancement in this respect. Send the boy to insure your property; at least, have him with you. Let him go with you when you buy your farm machinery. Let him do business for you often, and when he drives a good bargain, give him something for it. If we will give our boys such lessons they will not be so prone to leave the farm, but will, when they reach maturity, willingly accept your offer to farm on the shares. This will be much more pleasing to you than to be informed he will seek new fields. My advice to the boy is that with proper encouragement, stick to the farm. Let me admonish you fathers to give the boys a chance. Don't drive them from the farm. The farmer's life is the most peaceful, fruitful one on earth. No occupation is more honorable, and it is one of the most hopeful. Where can the boy better his opportunities? I often feel that the boy leaves the farm in search of experience when, if we had given him more freedom, his desire would have been satisfied. Next spring you will hold an election. Out in your school district there are four elements which must combine to give your boy a good round school education. They are patrons, directors, pupils, and teacher. Any one of them not working in sympathy with the others will portend disaster. Next spring, when you elect a member of your board, elect a strong-minded, conscientious one, one who has the personal interest of the school at heart. The school board should be made up of men who will not use their vested power to aid any individual member to gain political preferment at the expense of the schools. Politics and personal aspiration for office are together the most serious hindrance to good, genuine educational development in any American community. Politics is not a study in our public schools; therefore elect men not politicians to serve on your boards. Divisions in the district because of religious or political preferences soon bring divisions among the pupils and your schools are wrecked for years, and, perhaps, your boy loses by this an education. Elect a teacher, not because he or she belongs to the Democratic, Republican, Populist or Woman's Suffrage party.

What you need in your district is a diligent, pains-taking teacher, who thinks more of her work and her chance to help humanity through her vocation than she does of her own personal ease. You should have a teacher who talks with and not to the pupils. We use telephones when we wish to talk at a distance. You need a teacher who observes nature, studies and puts it

into practice. The teacher who teaches, the one who is wholly interested in her work, the one who has accepted a position not for the pleasure there is in it, but to teach, will have no other leisure than to educate those children whom a confiding public has placed under her charge.

There must be devoted, pains-taking parents, personally interested in the culture of their children, and willing to sacrifice time and money to insure more intelligence and more usefulness through the training and development which education must secure. Parents must be able to place education far above any day's labor which the boy or the girl may be able to perform. When education reaches this stage parents will send their boys to school regularly, and the teacher will not be called upon to excuse the pupil because of corn husking, hog killing, etc. Teach the boy when he begins something, to complete that something at the expense of all else. Teach this in regularity and punctuality at school.

You must have earnest, faithful pupils endowed with right ideas of the real purposes in life, and fully satisfied that a proper education will give the best culture, the broadest view and the largest efficiency. It is necessary to have pupils who believe enough in themselves and in their future to invest time and effort in school work, since without this faith there can be little real, serious endeavor and less real earnestness in the pursuit of knowledge.

All must be sincerely interested in solving the problem of good schools, and must at the same time realize that a full solution is impossible if any single factor does not faithfully perform its part. Schools can not be created by plans of organization, however perfect and comprehensive. They can not be made efficient by the county superintendent unless pupils, teachers and patrons all join for the success of the boys and the girls. Can not we say before parting this evening, we will not employ the \$25 teacher, but we will employ the one who can earn \$50? Will you employ the \$15 man to drive the team? No, that does not pay; you want the best. Give me the \$20 one. Whenever you consider your boy's time worth more than the paltry salary, you will seek the best teacher in the market. Will you not build up your libraries and strive to interest your children in good literature? God forbid that for the want of this great essential in our homes, our boys and girls shall tramp the streets of this or any other city seeking for amusement and past-time those things which only can degrade.

You can not hide yourself behind your teacher, board of directors, county superintendent, or any other and shield this want. Good schools are a consequence of good conditions that are made possible by harmony, helpfulness and participation. All the conditions are essential. Boards of directors, teacher, pupil, patron, come in to assist in building up a live and earnest school policy.

Start the child to school at the proper age and keep him there. Suppose you must hire help during the busy season? It will be money well invested and will indicate that you are fully interested in your child's educational welfare. Give the boy his education while his mind is receptive. When he has reached the age of yourself he will not retain facts so readily. Some things which you learned but yesterday have been forgotten, while truths which you learned in your youth come back as vividly today as if but learned at the present. They will be retained as long as reason. These experiences ought to teach us to educate our children early and give them the best in the market.

But some of you are asking yourselves the question, will it pay to educate? Some will say it is very well for you to talk in that way. It is part of your profession. My boy's education now is much better than I received. Let me caution you that we are living in another world, made so by intelligence and research. Because Lincoln, Logan, Johnson and some others did not receive a school education is no reason that your child will succeed with a mere pittance. Their personal endeavors and experiences, their masterly genius and originality, their quick perception made of them masters of the situation. It is but fair to ask what powers these men might have been had they received a thorough school training? But while we mention the few who have been eminently successful without this training, may I ask where would have been

our Beechers, Talmages, Depews, Cleavelands and McKinleys, whose clear logic, inspiring oratory has and is shaping the destiny of this proud Union, had they not received this great blessing which our forefathers have handed down to us.

I believe that every boy has a good position, one of profit and trust awaiting him if he is but prepared for it at the time it is offered. It has been my pleasure to walk through the streets of Canton, Ohio, on different occasions and number some of its citizens as my near friends. I remember seeing this shingle hanging on one of that city's busy streets: Day—Day, Lawyers. (The middle name of the firm I have forgotten). To me the senior member of the firm seemed but an ordinary country lawyer of whom we might expect but little except the practice of his profession. But he only illustrates the saying: "He was the man awaiting the place." William R. Day was born near Ravenna, Ohio, of humble country parents, attended the little country school, studied law, and finally settled down into a quiet legal profession. The present national administration recognized his ability and called him to preside over the Department of Justice. Elevated to the Department of State, his greatest efforts were yet to shine forth. He rounded out a two years' service for his country by heading the Paris Peace Commission which has brought renown to itself and glory to its country.

It is said that great occasions make great men. We therefore understand that an urgent provocation is necessary in order that great personages shall stand forth and become the objects of universal attention and admiration. When there is a national movement of prime importance, or when the black thunder cloud of baleful war o'ershadows our fair country, or we look on the placid bosom of the Atlantic and behold America's institutions menaced by the dark monsters of the powers of the east; or when it has seemed evident that the Union's last ties are to be torn asunder and Columbia's loyal sons are to clinch in deadly conflict, then have we expected a person of character and powerful influence to seize the helm of the ship of state and guide her safely between the frightful Scylla on the one hand and the yawning Charybdis on the other into the happy harbor of peaceful rest.

We have just closed a very successful war, made so by the valor of American armies. It has been said that ninety per cent of the American troops were educated, and that a like per cent of Spaniards were ignorant; that every American soldier who carried a gun was a commander in himself. In a southern city of this State it was my pleasure to mingle with the soldiers of the Fourteenth Regulars, and listen to some of the remarks made in a speech by the chaplain. I remember these words: "Look at those boys. They have not the stain of drunkenness on their countenances; they are not gamblers; not one has deserted; they are educated gentlemen. Watch the fighting qualities of the Fourteenth. They will come back with a glorious record."

Cuba, Porto Rico and the Phillipines are ours. Whether we retain them or not, those people have received a taste of American freedom, have had planted on their shores the seed of America's school system, and refinement and civilization must eventually prevail. And when those little Cubans have taken upon themselves America's educational plans, begin to study the history of that fertile island, they will learn that the man who sits in the White House tonight is the liberator of another race. The little Filipino will revere the great admiral who now rides the waves of Manila harbor as the greatest captain and the most trustful diplomat the east has ever known.

MISCELLANEOUS DEPARTMENT.

CHILD LABOR ON THE FARM.

Read at the Will County Institute by Lloyd C. Smith, Plainfield.

If we study the history of the countries of the old world we will find that agricultural classes were looked down upon, and treated as an inferior class of people. The poor, the ignorant, the despised, who could find nothing else to do, went into the country to seek labor. Moreover, the agricultural classes were taxed heavily, and were forced to hire the cheapest labor to meet the expenses thrust upon them. In Egypt the agricultural classes owned none of the land, but were forced to pay two-thirds of the taxes. Being thus deprived of time and money they were not educated, and as the slaves before the civil war, were kept ignorant by the domineering upper classes. You seldom heard of any of the heroes or statesmen coming from the farming classes.

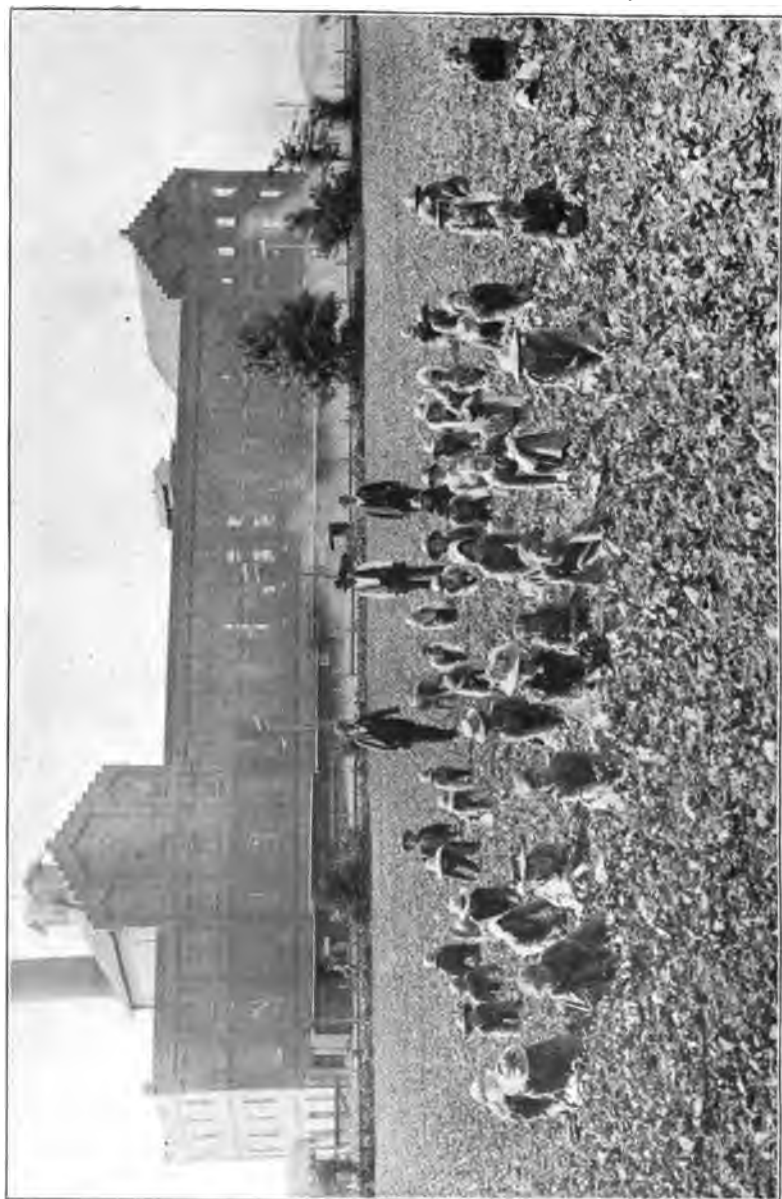
When America was settled many of these conditions were brought along, but the nature of the country soon brought them up to a level with others, which place they have held ever since. Now the farmer is taxed no more than any one else; he has the same rights of franchise as any one else. He has the same right to hold property. But the farmer had no machinery to do his work, so he was compelled to do it by hand. Consequently, he either could not farm so much land, or had to have more help. Generally he procured more help. But as this method was costly he made use of the family. In other words, the children were obliged to work.

How did they do their work in those days? Then they had no gang plows, no broad-cast seeders, no harrows, no self-binders, no threshing machines, no corn huskers and fodder shredders, no corn shellers. Everything was done by manual labor. In the harvest field the men would cut the grain, the women would bind it, and the children would carry it in piles, carry water, and attend to the others' needs. In the winter the children would go to school, but as soon as the ground was in the right condition the older boys were taken out and put on the farm. On holidays they would receive perhaps a few pennies as a compensation for their year's labor. In the fall they would receive a pair of boots—not machine-made shoes with needle toes, but good, strong, serviceable boots that would last a year. They received their allotment of clothes about the same time for winter wear; in the spring a suit for summer use. Mother knit the stockings. They did not stop to worry about which dress or which suit they should wear on Sunday morning.

Why was all this? They wanted to pay for their farms, and the manners and customs of that day taught them thus.

Within the last fifty years great changes have been made in farm labor. One man can do more with the machinery of today than five men could then. Inventive genius has been brought into play and revolutionized farming. But what has that to do with child labor? What are the boys and girls to do today? Then the boy of fourteen summers could help harvest and thresh grain. Now a self-binder does the cutting and binding and the self feeder has done away with boy band cutters. The lad was used on the straw stack, but now the blow-stacker has done away with that pleasant task. The corn binder has done away with corn cutting, and the shredder and husker has shortened that work.





ILLINOIS SUGAR REFINING CO. PLANT, WITH CHILDREN THINNING SUGAR BEETS IN THE FOREGROUND.

Location of factory, Pekin, Ill. Length of main building, 300 feet; 4 stories high. Length of beet sheds, 400 feet; capacity, 2000 tons. Buildings tributary: boiler house, lime kiln, machine shop, two immense warehouses. Capacity of factory, 700 tons of beets per 24 hours. Number of men employed, 240. Average wages paid men, \$2 per day of 12 hours. Amount of coal used per 24 hours, 50 tons. Amount of limestone used per 24 hours, 17 tons. Amount of sugar that can be turned out per 24 hours, 300 bbls. Number acres under cultivation season 1900, 3000. Number people employed during busiest time, 2000.

Some people argue that the child should not be compelled to do much work. True, we should not expect too much, but I think it is reasonable and necessary to the development of the child. If we wish to make an impression on a piece of clay we take it when it is pliable. Then when the clay hardens the impression remains. If it be a good impression or if it be a bad one it can not be easily changed. If we teach the child that it is necessary that he perform some daily task, that impression will become fixed upon him, and as he grows older will remain. If, however, he is taught that it is unnecessary for him to work, that impression, too, will become fixed upon him, and will remain with him until the world teaches him that bitter lesson. How necessary, then, it is that the child be taught that it is not degrading to work.

Take a child when he begins to play. Teach him to put his playthings away. When he gets a little older, teach him to put his clothes in their places when he comes indoors. Teach him to put his chair in place when the meal has been eaten, and teach him to do it in an orderly manner. "But," I hear some mother say, "I can do it in less time myself." I grant that, but do you know that by doing it yourself "to save time" you are neglecting your duty in teaching your child to work? When your child is five or six years old, he will carry in cobs, coal and water without murmuring. When your girl is seven or eight she will dust the furniture and wash and wipe dishes without any coaxing. Perhaps she can not do it as well as you, but was there not a time when you were not as efficient as now?

When the lad is nine or ten take him to the barn, teach him to milk the cow, feed the stock, etc. "Oh," again I hear some one say, "he is too young," and "the stock will kick or bite him." I know a boy who is ten years old, and he milks two cows every night and takes care of the calves; and when the older ones are away he will water, bed and feed all the stock on the farm. And that boy has never been kicked or bitten. This may be an exception, but I cite it to show that if he is taught a boy is a great help.

But I think there are some who make life a burden to the child by giving it too much work. If the child is forced to do too much it will get the idea that farming is a drudgery, and as soon as he can will seek employment elsewhere. He should be given a good common school education. You sometimes hear the older ones say: "Well, I never had as much schooling and I got along all right; why can't he?" Ah, he did not say that when he was a boy they did not have improved machinery, and that a person *could* get along with less education. Fifty years ago the boy and girl were taught that the knowledge of work was the highest aim of a farmer. Now it is different. The farmer's child, above all others, needs a good, thorough education. Work and education should be so combined that the child will take pleasure in both.

Is there any use in teaching a child to work? There are many reasons. First, if he is taught to work he can help on the farm, and thereby lessen the labor of his parents, and as he grows older lessen expenses. Second, if the boy and girl are taught to work they are also taught responsibility, and that is a great help in the school life of the child. He then sees that he is sent to school for a good purpose and will take an interest in his studies and make it easier for his teacher. Many children go to school because they are compelled to, and do not see the loss they incur by not attending to their studies. Third, if they are taught to work when young it will be a great help to themselves in after life. How sad it is to hear of one suddenly thrust upon this great river of life who knows nothing about labor. I believe if children were properly taught the necessity of labor our jails and penitentiaries would have fewer inmates, and tramps and burglars would become a rarity.

Some think if they stay on the farm they will never become noted or famous. History shows us many instances of famous men having been taught to work on the farm. General Putnam, that bold and daring general of the Revolutionary war, was a farmer. J. G. Whittier, the Quaker poet, was a farmer's son, and spent many years toiling among the rocks of Massachusetts.

George Washington and Thomas Jefferson both lived on farms. Daniel Webster, that powerful orator, was an unassuming, timid country boy in New Hampshire. General Grant, our famous civil war hero, received his early training on the farm. Abraham Lincoln—the immortal Lincoln—received his impressions of right and wrong and duty on the farm.

Boys and girls, stay on the farm. It may seem hard for you, but there is no calling in this world where freedom and pure life can be more easily obtained. With nature about you on every side you have an opportunity of framing a character which will last through eternity.

THE OUTLOOK FOR THE FARMER.

By W. T. White, Cutler, Ill.

We all like to look upon beautiful pictures. Human nature is so constructed that only the beautiful can please, and the more beautiful an object, the more pleasure we find in it. We may not all agree as to what beauty is, or of what it is constituted, but we all like beauty, nevertheless. We do not always stop to think that beauty is only ornamental, and not necessarily useful; yet it may be both beautiful and very useful. Look upon a photograph and you may say that it is very beautiful, when the subject of that picture may be very homely to those who know it intimately, and possibly would be to you if you were intimately acquainted with it. So it is with our lives and vocations here. They may be very enticing to those who merely look on from the outside and do not become acquainted with them. Take our ordinary city cousin and listen to his eulogy upon the farmer's life of luxury and ease, and if we did not know how it is ourselves, we might begin to wonder what use there is for any heaven but the farm. If one of these parties will follow the average farmer around with the sloop pail from 4 o'clock in the morning until 6, swilling the hogs, wade through mud and snow feeding the stock of various kinds for an hour each morning before they go to breakfast, they would find a reality in it that might take some of its beauties away. Then think of the same course being gone over from 6 to 8 o'clock in the evening before going to supper, they would soon become disgusted with the whole thing. The average time worked by the farmer now is about 11 hours out of each 24, and it is very doubtful, indeed, if this can be shortened if more than the necessities of life are obtained. Take one of our farmers and let him adopt the 10 hour system on his farm and he will soon have no farm to use any system on at all. Yet our State and government say man should not work over 8 or 10 hours, and so adopt laws fixing a day that is so short that no farmer can use it and make a living. With our public works this can be done, but it can not be put to practice on the farm. We must work long hours for a day, and occasionally take a holiday. This occasional holiday is the only luxury that I can now think of that may be partaken of freely by the farmer, with but little cost. He is so poorly paid that if he loses a day now and then nothing much is lost, if he has his business properly adjusted. If we stop to think that the more we raise on the farm the less we are likely to get for it, why should we not take advantage of all the leisure time we can? The time has arrived when nothing is so cheap as time with the average farmer. He gives more time for one dollar than any other class of people on earth; so that all the pleasure obtainable out of time should be appropriated by the farmer to his own and his family's welfare.

Do not misunderstand me, now, and say that I advocate loafing as a pleasure. I have never yet seen a successful farmer that could find any pleasure whatever in loafing around on the street corners, merely to be killing time. Go around your street loafing places, your groceries, your hell holes in general, and four out of every five men you find there are your men whose hours of toil and labor are fixed by law, and not by necessity, as some of them will loudly proclaim. Work may be plentiful and urgent, but when their 8 or 10 hours are done they stop without regard to their needs or requirements. You may say he gets as much for this short day's labor as he formerly got for his long day's labor. True but does that make him a better man or citizen? I do not believe that in one case out of a hundred it is for the man's betterment to shorten his hours of labor by law. I fully believe that circumstances

alone should govern a man's hours of toil. The man, if he is a man worthy the name of a citizen, can know better what he needs to do or have done than all the laws of our land. That is what governs the farmer in his hours, and there is no class of laborers in the world that are so sparsely represented in our penal institutions as the farming class, all because they do not have time to be idle and mature deeds of misdemeanor. It requires all their time to keep the wolf from the door and pay the interest that is due on their indebtedness, for I think you will agree with me that a large majority of our young farmers, especially, are in debt. Twenty or thirty years ago the young man who married and settled down in life thought nothing of going in debt for his farm, because he could get a fair price for his products and labor, and in a few years he was independent. But during the last fifteen years it has been a very hazardous risk to attempt to pay debts if you wholly depended upon the farm as the resource from which your revenues must come. But times have changed very materially in this time, and I fully believe any man within my hearing can count upon his fingers the number of young men who have been able to lift the mortgage from their farm while relying wholly upon the products of that farm. Of course many persons are born lucky and by the death of a rich uncle or aunt have had an opportunity to lift the mortgage. This, I say, is the condition of things during the last fifteen years. But we must remember that during this time we could hire help on the farm, and make a little out of it, so we did not have to rely upon our own muscular labor entirely. Today we are found in this condition, with several other attendant reverse influences, namely: low prices for everything you have to sell; high prices for everything he has to purchase; acceptable farm labor scarcely to be had at any price; taxes as heavy in dollars and cents and much heavier in your products than ever before. This is not as pleasant to look upon as I wish it was, but I think you will agree with me that it is a true picture. Now for the outlook. What is it? We dislike to have to think we must remain in this situation all our lives. No man desires this condition to continue very long. But with debts contracted when products were high, labor cheaper and better than now, if we could not pay off the mortgage then what are we going to do with it now?

This is a serious question, and one that will not down. All this clatter about living within your income is good advice, but when it takes all your income to meet your daily wants and necessities where are payments on that mortgage to come in? I wish I could point out some way that is absolutely feasible and sure for us to trod, but I see none.

I believe we will have the present low prices for farm produce for the next generation at least. I fully believe we can better our condition materially by changing our practices. First, in the matter of hired help. We hire too much help. It takes all we have to pay the help on the farm. This help must be paid in money, and it requires a large lot of produce to get the money. You can not judge a man's ability to pay by the amount of his products unless you know what that product costs him.

I firmly believe we must stop hiring help on the farm. There was much food for reflection in the Irishman's reply to his landlord. Possibly you have heard this story, but I will tell it anyway. An Irishman had worked for a farmer for several years, and at the end of each year the farmer had to sell a yoke of oxen to pay Pat's dues. Finally all oxen were gone but one pair, so the farmer told Pat he could not keep him any longer, as he had nothing with which to get the means to pay him. But Pat referred him to the lonely yoke of oxen still on the farm, and assured him they would be sufficient to remunerate him still another year. "Yes," replied the farmer, "but then they will be gone and I will have nothing to work with myself." "O," says Pat, "you can then go to work for me and soon get them all back again." Is Pat's principle not being carried out on very, very many farms today? Too often is it the case that when we get our Pats paid off we have nothing left.

The time has come when supply and demand cuts no figure whatever in the price of anything. Combinations control it. Take the price of wheat last year when it run up to over \$1.00 per bushel, when we had a fair yield within the United States, and other countries were much better supplied than they are this year, with the price you are getting today when the crop is short, and as was said by one of the leading papers in the country not long ago, when the government crop report came out showing the worst crop report for twenty years, "and still wheat went down." Take the receipts of wheat all over our country and compare them with other years and tell me if there is not something radically wrong. I know some one will say politics is the cause of this, but it is not. You will never change the condition of the farmer as long as you look to politics for relief. Politics is the ruination of our farmers. You may as well wade out into the Mississippi river to try to keep from drowning as to go into politics to better your condition. Principle is what you want, and that is an unknown quantity in politics. But you will say, should we not have our opinions on the grave questions that confront us about our national affairs? I say yes, have your opinions. Your own opinion, not a party's opinion. For all the use under the canopy of heaven they have for you is to use you for their own selfish purpose. Their income is fixed, and they want just as much of your product for the amount of their income as they can possibly get. Just as you want as much of their money for your products as you can get. Look over the period I have mentioned, since we have been coming to our present state, and you will find we have had both parties in power about equal time, and tell me which has been the best friend of the farmer. If any friendship has been shown them I fail to see where it has affected them for good. What is the result? Business prospering, with every one making money but the farmer. If anything disgusts me with a farmer it is to see him sit down and wait to see what his party is going to do on any question before he dares say how he stands on it. Or what is worse, change fronts as soon as he finds he has taken an opposite view to what his party advocates. I say throw off the yoke of bondage and be a man. Tell people you advocate a measure because you believe it is right and just to all men, and not because your party says so. In other words be men not mere dupes. If every farmer in the country would take this stand it would cause such a revolution in parties within five years that you would not know them. Business men all over the country know this is a fact, and make it count for all it is worth. The political parties understand that these business men will not be bound by party, if in their judgment, it is against their interest; hence each party tries to cater to their wishes, because they know the farmer who has been born and raised in the faith will seldom depart from it. Each party wants to advocate the doctrines that will catch the greatest number of votes, among the independent thinkers, but I fear they seldom look to the farm for that material. I admire any class of labor that advocates its own interests. Our coal miners, are as a rule, more independent voters than the average farmer. They want laws and regulations, and go up with such a bold front, that no man dare refuse their request. And although we sometimes look down on them, as not the best class of citizens we have, yet they are offering us valuable lessons every day. Organization is the watchword with every class but the farmer. If the farmers were as well organized in the state as the miners are we would fix our own prices, just as they are doing today. Organization is the order of the day. Even our ministers have their organizations for the betterment of their condition. Our railroad men, merchants, doctors, lawyers, millers, and in fact every avenue of labor from the hod carrier to the politicians, with the single exception of the farmer. In union there is strength.

But there is one other point I wish to notice, and then I am done. What effect is the present mode of farming having upon our families? Are our brightest boys staying at home with us on the farm, or are they drifting with the tide, and going into other avenues of usefulness or what is worse uselessness? As I have tried to show you, if a boy has ambition to make his mark in the world by accumulating wealth, which is just and honestly his if gotten by right means, he must leave the farm to do it. The day is past when any man can become wealthy farming. If we could use our boys on the farm,

and show them they were making a competency for old age, we would not have to worry because our children were leaving us so much. There are three things I would suggest as a start in pursuing an improved condition, viz: First farm less land, so you can do all the work yourself; second, organize thoroughly, so you can do all things in concert, and last throw politics to the wind, so you can be men.

HUSBAND AND WIFE AS BUSINESS PARTNERS ON THE FARM.

By Mrs. John C. Raleigh, of Specie Grove.

To the farmer and the wife he has chosen to bear him company, in his quest for the golden treasure which lies one spade's-length deep underneath the sod, this problem of partnership presents itself for solution.

That, to gain the object of their search, will require years of patient plodding and husbanding of resources is certain; but if they would know the joy of living and have success crown their efforts, they must work together in perfect harmony; as in no other occupation does a man need the coöperation of his wife more than in that of farming. He turns to this business with the purpose of making himself master of it, knowing that upon well-directed efforts and economical methods depend the comfort and well-being of his family. He realizes that the difficulties which, like barbed-wire fences, surround him must be surmounted by the compound efforts of brain and brawn. That the time has passed when the farmer could find himself on the high road to prosperity without the use of thought or study, and as he is one of the many who have not had the benefit of a course of training in an agricultural college, he wisely attends farmers' organizations to learn the methods of those more experienced, more progressive and more successful than he; reads the best papers, discusses current events with anyone well posted enough to talk with him, and by keeping in touch with the ever changing conditions of the world, his character broadens. There is a tonic in the pure country air that stimulates his mind to a wholesome growth. As he sticks his plow into the rich soil his thoughts go up from the sod and he looks "through nature to nature's God." This close intercourse with nature fosters a quick and keen observation which aids him in acquiring a practical knowledge.

In the meantime, how fares it with the little woman who has forsaken father and mother for his sake? who has promised to share his joys and griefs, his toil and privations? In the beginning of their married life he was pleased to call her his "better half," thus admitting that their unit was made up of two halves, not of three-quarters and one-quarter as it sometimes proves to be later on.

With a light heart and buoyant step she crosses the threshold and enters her field of achievement, inside the four walls where she is to build a home. A "wee corner of God's field," where she must test her strength and abilities as does her husband in his work. In assuming the responsibilities of this new relation she enters upon the discharge of its duties with bright hopes for the future. Has she not a strong arm to lean upon? Will she not have the ready sympathy, the loving appreciation that all human hearts crave? She is her husband's equal in social standing, in mental grasp, and in strength of purpose to meet and overcome all obstacles which may confront her. But, in making a home on the farm, a home which shall be something more than "an open fire and a cat on the hearth," she finds that every hour is filled with practical duties which often descend into drudgery and well nigh overwhelm her. Her husband in his work comes in contact with men and affairs. The cheery "good morning, neighbor," followed by a social chat over the fence, awakens new ideas to occupy his mind, while she, in her isolation, works and thinks in the unbroken silence. Imaginary troubles which are mere shadows grow to be real ones, worry creeps in upon her brain until—have a care, husband, lest the weeds of discontent spring up in the mind of your helpmeet to drive the first wedge of divergence between you. They are harder to eradicate than the ones growing in your fence corners.

The season has ended, the farm produce marketed, and the proceeds used where most needed, according to the best judgment of the husband, whether he be the better manager or not. It is an old saying, and a true one, that

"two heads are better than one," and although women are frequently accused of "jumping at conclusions," these are sometimes found to be as nearly correct as the ones a man arrives at after a process of reasoning. So, best results will surely follow an exchange of opinions where both agree upon a plan of action.

What has the wife who has been housekeeper, hostess, cook, laundress, seamstress, nurse, gardener, poultry raiser, to show for her years' work? Only the few dollars she obtained by explaining at length what she needed them for. Would it not be a most unusual thing to find in the business world a partnership, no matter how unequal the division of labor and capital, in which the profits are appropriated by one member, the other meekly asking for a few dollars to supply his most pressing needs? Yet this is often the condition of affairs in these partnerships formed to continue "till death do us part."

We are all familiar with the story of the wife who, when compelled by actual want to solicit aid from the "head of the house," resorted to a little diplomacy. She prepared a meal of his favorite dishes, and after he had partaken and in consequence was in his most genial mood, went through with the trying ordeal. Trying, whether her request be granted graciously or grudgingly, or whether she have the experience of Josiah Allen's wife, who made some remark that her husband evidently didn't appreciate as she said, "Josiah didn't frame a reply. He hadn't any frame." Now, it is not always from penuriousness or selfishness that this husband waits to be appealed to for funds to supply the household demands, but, in order to put in operation plans in which the opinion and advice of his wife were not considered necessary, he finds that he must cut down expenses and he begins in the house.

In his failure to seek the coöperation of her whom of all the world is most anxious for his success in insisting upon her entire dependence upon his judgment and management, he is following old-fashioned customs, and fails to show the same general progress, the same quickness in adopting advanced ideas and methods that he has in other lines. He fails to grasp the idea of partnership when it applies to his property or his profits, be they small or great. Yet the work accomplished by his wife has been equal to his and far more monotonous; the demands upon her time, patience, strength and purse fully as pressing. You may excuse him if you will by saying, as one woman did, "He has never been a woman, how could he know?" or, "It is a man's way; he prefers to be the strong oak to which his family must cling for support."

But say what you may, the law of compensation ought always to obtain. Common justice demands that the wife have her share in the family prosperity to spend or invest as she chooses, or to give if needful, in the manner that the Savior directed. She cares not more for the value of the money for the feeling of independence that the possession of it gives, than for the sweet consciousness of trust reposed in her by her husband, that her rights as his partner have been respected and that she will not be required to ask for that which is hers.

Conan Doyle says, "The man who respects his wife does not turn her into a mendicant. Give her a purse of her own." Henry Ward Beecher urged that the home so necessary to a woman be given to the wife, saying that he had known of cases where all other property had been swept away, and but for this provision the family would have been homeless.

That the unequal division of the profits accruing from their mutual exertions is often the cause of things going at cross-purposes in the domestic circle, there is no doubt. And the remedy, having for its foundation the Golden Rule, lies within easy reach, and is simply this: Let husband and wife be equal partners, sharing alike all property interests, gains, losses and responsibilities. Let this partnership be conducted on strict business principles. Let every item of income and expenditure both on the farm and about the house be kept account of. This system of bookkeeping may be very simple, and the record left open for daily inspection by both partners will be a great help in refreshing the memory in regard to small change which slips so easily through the fingers and out of the mind, and in knowing just how great economy it will be necessary for each to practice.

To make financial success certain, write at the top of each page in letters large and clear enough for "him who runs to read"—"I will spend less than my income," and abide by the promise. Whatever portion of the profits constitutes the wife's share should be given her with the understanding that it belongs to her legitimately, as a member of a business partnership. In order that this arrangement shall be satisfactory, husband and wife must acquaint themselves with the details of each other's duties, and consult with each other in all transactions where the interest of both is concerned. Be assured that no true wife will advise against the interest of her husband. Although she claims the right and uses it, too, of telling you in plain words exactly what she thinks of your shortcomings, just let her hear anyone else using the same privilege. Farmer, your wife is loyal. Be not chary of your outspoken words of appreciation; they rank high among the angels.

The long winter evenings,

"When the forest trees
Gleam in the frosty air,
And over the roofs of men
Stillness is everywhere,"

is the farmer's harvest time for gathering knowledge from every available source for the perfection of arrangements for the coming year and for the discussion of the events of the day as gleaned from the papers or taken place on the farm.

That the wife may be her husband's partner, friend and comrade, requires much besides physical exertion. She must have time to lift herself out of the confines of her labors and refresh herself in new interests. She must keep abreast of the times. It will never do to wait until she has time to spare to read the newspapers or the last magazine. That time will be slow in coming. The only way is to take time or, better still, to make time by the use of improved methods and the practice of some ingenuity in getting her work done. It is her duty to read that she may have food for the thought. That she may not waste time by idle day dreaming which cheats her mind of its proper development. True, thought is the great power that moves the machinery of the world, and the farmer's wife may find in the eternal stillness which surrounds her, an aid in improving her mind if she will but think to a purpose. In her isolation books, papers and magazines are the "loopholes of her retreat," through which she may "hear the sound of the great Babel and not feel its stir." From a few minutes of reading each day she may gather beautiful thoughts which will lighten her labor, help to drive away discontent, and refine her nature.

Were a list of don'ts prepared for the use of women living on farms some of them should read like this: Don't wait until you have amassed a fortune before you begin to enjoy yourselves, as the pleasure lies in the pursuit. Don't neglect yourselves. Don't fail to keep in touch with the world outside. Owing to the low price of books and the educational nature of magazines and newspapers, this may be easily done and you, perhaps, be spared the sorrow of awakening to the fact that your partner is seeking outside the home for some one to talk with on such subjects as farm economics, the latest war news, the newest plank in the political platform, and many other things about which he knows you are not well informed enough to even ask intelligent questions. So prepare yourself, not only intellectually to be your husband's partner, but be careful about your personal appearance, cultivate business habits, a cheerful disposition and, above all

"Keep a watch on your words unceasing,
For words are wonderful things;
They are sweet like the bees' fresh honey—
Like the bees they have terrible stings.
They can bless like the warm glad sunshine and brighten a lonely life,
They can cut in the strife of anger
Like an open two-edged knife."

The better you meet the requirements of this partnership the more readily will your husband be persuaded to relegate ancient customs to the ancients and take you into full business partnership and comradeship, without which

you will never be entirely happy. Truly, happiness comes from within, and can neither be bought nor sold. The farmer owning a few acres, owing no one, and satisfied with himself and his household, enjoys a quiet peace and contentment that Cornelius Vanderbilt, with six million dollars applied as a salve to his injured feelings, might envy.

This is an age of experiments. In every farm-home this coming year may there be made a practical demonstration of the ability of the farmer's wife to be the business partner of her husband, to handle wisely and economically the money she has earned, and to be an efficient help in frightening away that nightmare—the mortgage on the farm—which disturbs the dreams of too many farmers. She will develop feelings and aspirations which would have lain dormant under other tutelage. Their mutual interest in the

"Meadows, rusty and silent,
Brown corn field over the way,"

will inspire mutual confidence and devotion. So working together each for the other in this partnership which is based largely upon trust and confidence, will the husband and his partner find all there is in life worth living for.

As the villagers heard the old cathedral chimes peal forth each hour the beautiful strain from Mendelsohn's *Elijah*, "He, watching over Israel, slumbers not nor sleeps," so may the farmer and his wife hear ever ringing in their ears the sweet-sounding words of the divine injunction, "Do ye unto others as ye would that they should do unto you," and by following this as a guide, will have meted out to them full measure of success and happiness.

IS THE FARMER PROSPEROUS?

A Paper by V. G. Way.

To make a comparison one must have a standard or a point to compare from. If the standard is a false one then the comparison is wrong, and therefore the results obtained are wrong. If we measure the condition of the present farmer with other classes of industry as to prosperity, if we are not careful we will use a false standard and arrive at a wrong conclusion.

The class of industry taking the greater risk in business venture should have the greater rate of per cent of profit. Small tradesmen with about the same amount of capital invested as the farmer who rents 160 acres of land to raise grain, seem to be the more prosperous; that is, if he is fortunate as regards fire and poor debts. The one he can not control; the other depends upon business sagacity.

If the farmer will use the same amount of business sagacity as the tradesman, his risks being less and a less drain on his vital energy, with a less rate per cent of profit, yet for a term of years he should be equally prosperous.

The tradesman plows the straight furrow of economy by saving the pieces of wrapping twine; does the farmer look after the little things? The tradesman plants the straight row of management by knowing months beforehand what should be done to obtain success; does the farmer plan out his work and manage for the different rotation of crops in like manner?

The tradesman knows the cost of each article and what he should sell it for to realize a profit, does the farmer know the cost of a bushel of grain and whether he sells it at a profit or where the leakage is that changes profit to loss? If he knows these things and practices them and is not successful, then the tradesman is the true standard and the farmer is not prosperous.

If we compare the farmer of today with the one of a generation ago, appearances would say that the farmer is prosperous. Then not one farmer in fifty, not even if he was a land owner, had a covered buggy; not one in twenty-five owned a spring seat; a board across the wagon box served for him every day in the week; now there are more light rigs for easy travel than wagons for farm work in this county. Then we cultivated per man about one-fourth as much land as now and raised fully as much per acre. Wealthy farmers as we term them today were hard to find; now they are in

evidence everywhere, except when the assessor makes his visit. Then even the farm crops were traded at the store; now everything brings a cash price. Then you paid a premium for gold to pay taxes; now you can pay your taxes in silver if it is 60 per cent discount. If you measure the now with the then, which is a true comparison, the farmer is prosperous. No improvements were made on the buildings or farm surroundings to aid in looks or usefulness; the fences were an annoyance to the farmer's neighbors and the farm appearance was an eyesore to the prosperous community in which he lived.

Farmer A and Farmer B start in life equally, both renting 160 acre farms of the same man at a grain rental, each holding a five year lease and each ambitious in his way. Farmer A at the end of his five year lease bought the 160 acres, making a small payment. He bent every energy towards the payment of the debt incurred. The receipts from the butter, eggs and poultry supplied the wherewith for the family expenses. The receipts from the crops sold went to pay the farm indebtedness. If the crop was short or the prices of grain low, a corresponding cut was made on other expenditures to meet the deficiency. Papers and books for the family were not to be thought of then, while extra clothing was unnecessary. Work for all hours of the day for all members of the family was the thing most in evidence. This, while hard at first, soon became natural to him and it seemed that he only enjoyed himself while so doing.

At the end of ten years the farm was paid for, but habits of life thus acquired are the sand bars of social existence; they had by their stick-to-itiveness become part of his being. He continued to acquire more land and in doing so starved himself and family physically, mentally and socially. It was said of him that he was a prosperous farmer, but his children left the farm. No farm life for them; they were totally unfit to take up life's battle on any plane. His wife receives that care she was deprived of in early womanhood, in a benevolent institution, but it came too late to be appreciated by her clouded intellect. Farmer A is a prosperous farmer, but his prosperity is measured by a false yard stick.

Farmer B continued to live on the same 160 acres of land, renewing his lease as the five year term came around. The interests of the landlord and tenant were mutual; they worked together to increase the fertility of the land by the sowing of clover and feeding it on the farm. The landlord furnished the seed and the extra stock to convert the clover into fertility, being amply repaid for the outlay. The landlord kept the buildings and fences in good repair, and the tenant used them carefully that no unnecessary outlay be required.

The tenant having a long-time lease could afford to set out small fruit for the family use and the landlord having an eye to beauty as well as fertility furnished an apple orchard and a grove of forest trees for the grounds around the buildings. The landlord and tenant thus working together increased the income from the farm, which each shared mutually by the terms of the lease.

The landlord's interest was taken care of by the increased value of the land, which was a true value as the crop returns indicated: it was a steady return that paid good interest on all investment. The knowledge that he owned one of the best farms in the locality and that the land itself had paid all expenditures, was a satisfying pleasure to him.

Farmer B acted on the principal that nothing grown upon the farm was too good for his family use; cream, butter, eggs and poultry to a sufficiency, and fruits at all seasons were a part of the family diet. Flowers from the garden graced the table in their season. No one was overworked; all work had been planned beforehand. A sufficient help had been assigned to each department that no one was a drudge or the work a drag on the spirits of those engaged in it. Books, papers and music the companions of the family in its leisure moments. The children were carefully educated that they might become useful members of society and be able to bear any burdens of life that their stations might demand of them. Farm life was their ideal, and a participation in its duties was their aim in life.

Farmer B, by judicious investment at times when it would not discommode himself or family, laid by a competence sufficient to enable him to pass his life in ease and comfort. Yet people said he was not a prosperous farmer; in the measurement they again used the false yard stick.

HOW TO KEEP THE BOYS ON THE FARM.

Read by Daniel Moffitt at Farmers' Institute.

I've been assigned to write upon the problematic subject, "How to Keep the Boys on the Farm."

This very interesting subject is being discussed at every Farmers' Institute in our land, and really there is scarcely a fireside but what has discussed this enigmatical problem. Had this honorable body given me the subject "How to Drive the Boys off the Farm," I could have written on a subject more comprehensive, at least to myself.

In the first place we don't think it best that all the boys should be kept on the farm as a life pursuit, for the occupation would become overstocked. If all were farmers, who would buy our produce? Diversity of occupation must be encouraged, so as to make consumers enough to make a market for our surplus products. Then, besides, there is such a great demand for the farmer's boy in all the great business enterprises, both national and commercial, that to detain him would be a sad thing for our country. Not only sad, but disastrous would be the day, should it ever arrive, when this element of success shall not enter into the great business competitions. But the call is so imperative in all the business capacities of our beloved republic for the hardy, industrious, ambitious, moral and honest farmer boys, whose brawn and muscle have been so developed and fitted for the endurance of great mental efforts in the active struggle of life, either in the executive halls of our country or in the chambers of commerce and scientific world.

But I digress from the topic assigned me. To make the subject more comprehensive and demonstrative, I shall endeavor to show why some boys leave the farm, being disgusted at the primeval calling of man. A rigid perseverance in all manner of slipshod farming and having everything inconvenient, turning everything possible into land, thus making more work for the boys whose lives are already in reality nothing but servants, without relaxation or pleasure, and even isolated from youthful associations; arbitrarily ordering them around, scoffing, cursing and bemoaning them as off-scourings, and by extinguishing every desire or aspiration. In reality giving them such treatment as his four-footed beasts receive. There are just such farmers in our community who never think that their boys are being inspired with higher motives, and with a desire to be untrammelled in their actions; that they long to be free as the wild zephyrs which they breathe. The treatment and surroundings are what make the boys contented on the farm.

Now, how to make boys contented and love farm life is the great question. In the first place, inculcate into their youthful minds the dignity of the calling. This should be done at an early period in their life, when their minds are as plastic as the potter's clay and are susceptible of being molded into shape. Teach them that the agricultural vocation is not ignominious, but one of the most highly honored of all the pursuits of life. Teach them that all the civilized nations of earth have recognized the great importance of this calling by giving them a department in their executive halls, both State and national; that our great nation has so legitimized this vocation as to give us a cabinet officer, something that no other vocation can boast of. Instruct them that the farmers stand upon a high eminence and look down on the tumult and turmoil of the struggling throng of the business world with an eye akin to pity. Instruct the boys that when nations arise against nations there is no victory until the farmer shoulders the musket or buckle's on the sword,

then the nations stand with bated breath and tremble at the result. Tell them that the wisest statesmen, the best presidents, the great commanders, the greatest minds, men who swayed great nations as the mighty cyclones do the forest, were farmer boys. Admonish them that they are the rising men of the future; impart to them all the knowledge you are capable of instilling into their youthful minds. Imbue them with truths grand, noble and momentous. Hold their confidence in you as a sacred trust; counsel with them in most matters; acknowledge their sound judgments instead of doggedly insisting on your old way of farming; allow them to carry out their advanced ideas of how to farm—perhaps their ideas are the best; consult them on all agricultural topics; allow them some young stock—a colt, a pig or calf, something to call their own, and stimulate them with a desire to excel in every department of agriculture; furnish them with good literature—farm journals, reliable newspapers and books of moral teaching; furnish them with good farm implements; let them try their hand at farming by giving them control of a small field, for nothing is so gratifying to a boy as to let him try his hand and boss his own affairs and perhaps carry out some long cherished idea or observation. Give them the best education that your means will permit.

In your daily intercourse with your boys listen to their suggestions and if they don't meet your approval mildly but wisely give your plans and the reasons why. In short, love your boys; teach them to love father and mother and home above every other terrestrial thing, and you may rely on it that they will stay on the farm. Should one of the boys show a natural tendency for some other calling or vocation, either mechanical, professional or mercantile, it would be next to criminal to curtail him of what nature has designed him for. Perhaps if you threw obstacles in his way you would rob the world of a genius.

To the parent I would say: The daily intercourse with your children has much to do with repulsing them or attaching them to a farm life. If you are dissatisfied with farming, so will be the boys; remember the daily reference to your occupation has a lasting effect on the children; this has much to do with the dissatisfaction of the boys with farm life. Had it been the united sentiment of the parents that farm life is dignified, useful and pleasant, and a very desirable one, then the boys would be more likely to remain on the farm.

I wish to call the attention of this honorable body to the tendency to retrogression in our beloved calling. That is, if a farmer has a bright and shining intellect amongst his boys, he is fitted up for a profession. "If my boy is dull and won't learn, he will make a farmer" should be discarded and let some of our brightest intellects be fitted for the farm. There is no other vocation that offers such inducements or a broader scope than agriculture. This field of research is endless along that line. We want scientific farmers; the call for men of such intelligence is increasing as the country grows older. So educate the bright boy for a tiller of the soil. The inducements to young men to become scientific farmers are great. Agricultural colleges loom up in every State of the Union, and education with the aid of farmers' associations has established his deservedly high standing among men; his intelligence, ability and knowledge will fix his place in society and give him recognition among the rulers of the land. The educated man of today is the intelligent, close observant tiller of the soil. Perhaps he does not know anything of the dry details of mathematics or logarithms, but in the natural sciences he is conversant; his daily occupation leads him into those realms; as he toils, he studies the chemistry of the soil, or the botanical kingdom of which he is surrounded, or the astronomical phases; no one is better educated in entomol-

ogy, or the mysteries of zoology. In fact every branch of the natural sciences he has intuitively acquired by his daily avocations and close communion with them.

THE FARMER BOY.

The boys who toil are strongest,
 Even humble and poor become great;
 From those brown-handed farmer boys
 Will grow mighty rulers of state.
 The pen of the author and statesman,
 The noble and brave of the land,
 The sword and the chisel and palette,
 The farmer boys hold in brown hands.

When a foe against our nation assail,
 And our army in solid phalanx stands,
 Who is the one that carries our flag?
 The farmer boy with brown hands.
 Who is the commander in the sanguine affray—
 The brave leader of these victorious bands,
 Who stood amidst the shower of lead?
 That's the farmer boy with brown hands.

Who were the presidents so humane and wise
 That their names are revered by Americans?
 It was faithful Washington and Abe Lincoln,
 Two farmer boys with sun-browned hands.

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